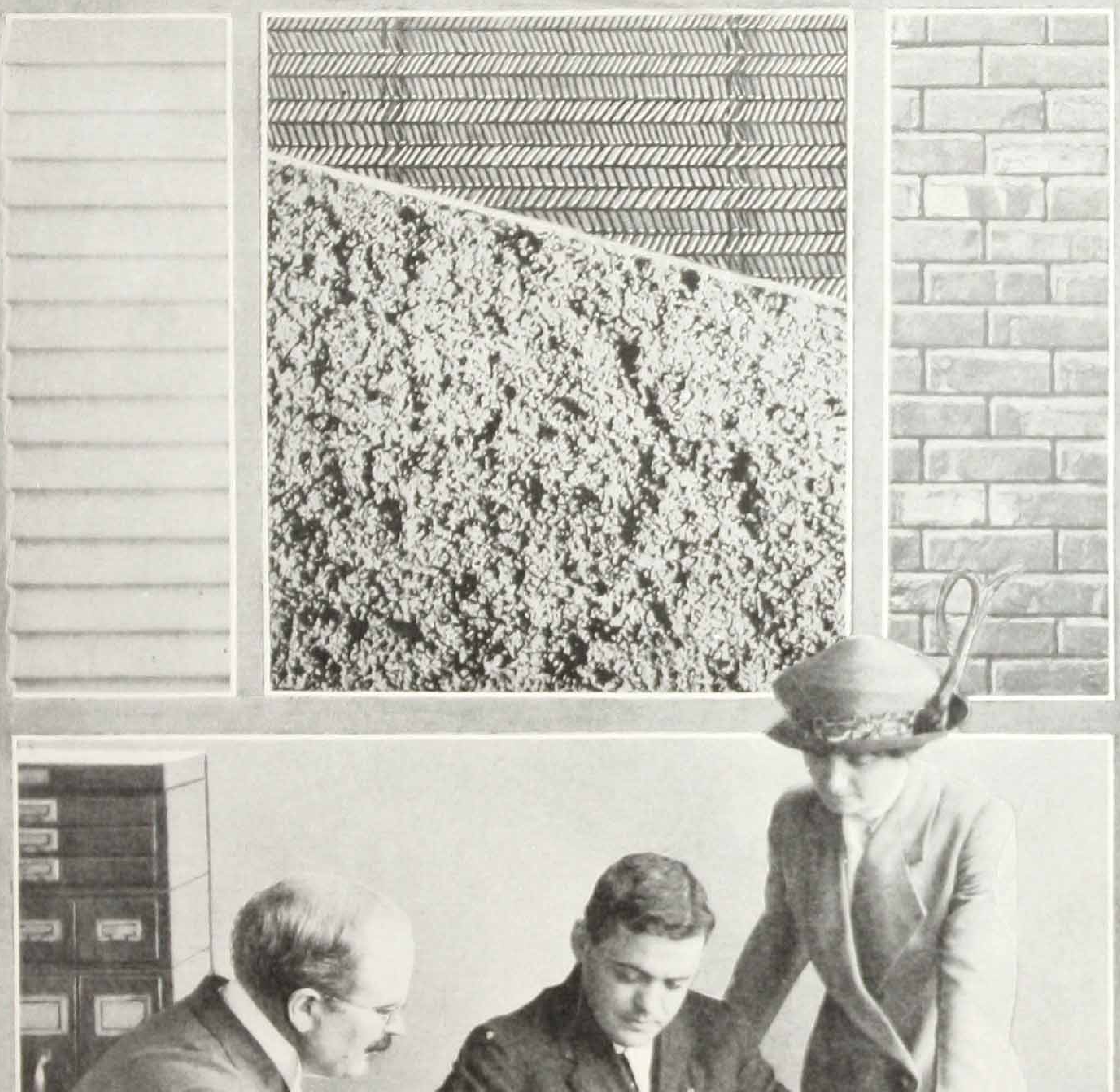
98-7.

The Question of Building Materials

Metal Laths



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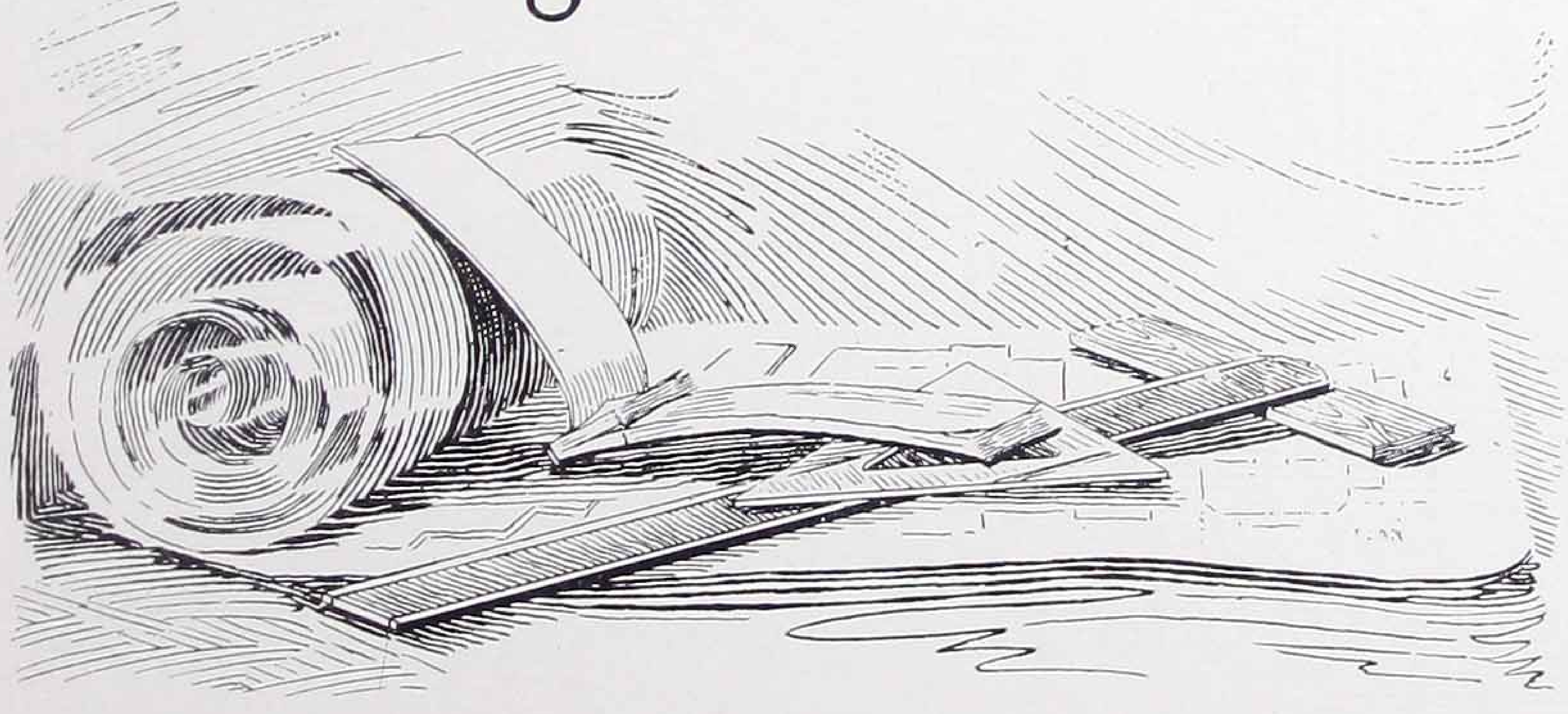
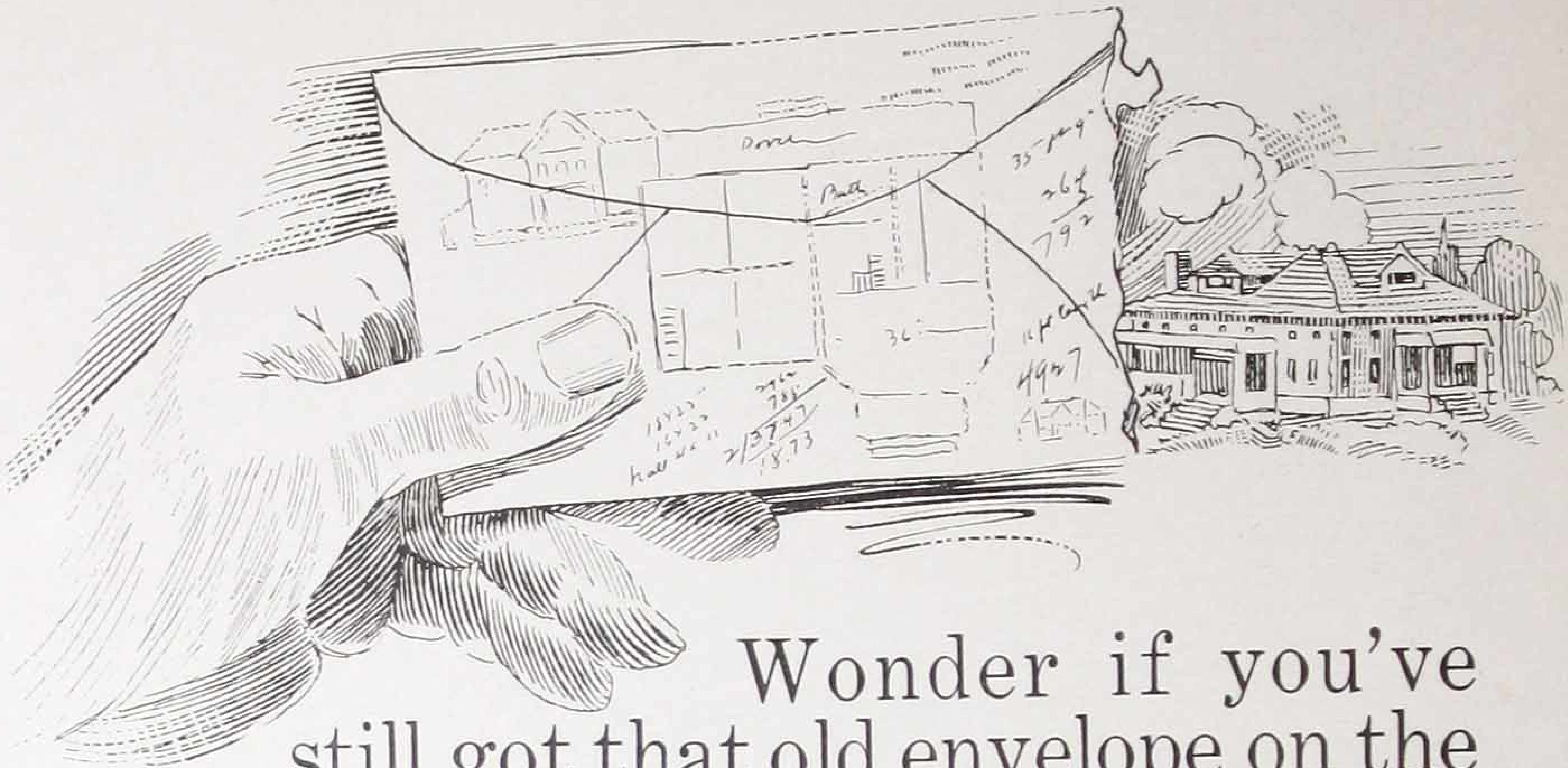
INTERNATIONAL

The Question of Building Materials

A discussion of the values of various commonly used materials from the point of view of the prospective builder.

The General Fireproofing Co.
Youngstown, Ohio





Wonder if you've still got that old envelope on the back of which you made the first sketch of that home you meant to build *"some day"*?

Remember how definite your ideas were? You knew *just* what you wanted for *your* house—*it* was to be *ideal*—to have none of the stupid faults of other houses.

You had a fixed idea on every detail—had it all worked out in your mind—you'd been thinking it over and planning so long that you could *see it*, perfect and complete, as it would be when finished.

You were so sure you knew *just* what you wanted, and what was *best*, that you could have written the specifications off-hand.

And yet

you have never met a man who, after building his first house, has not begun to tell you of the things he'd do differently if he had to do it over again.

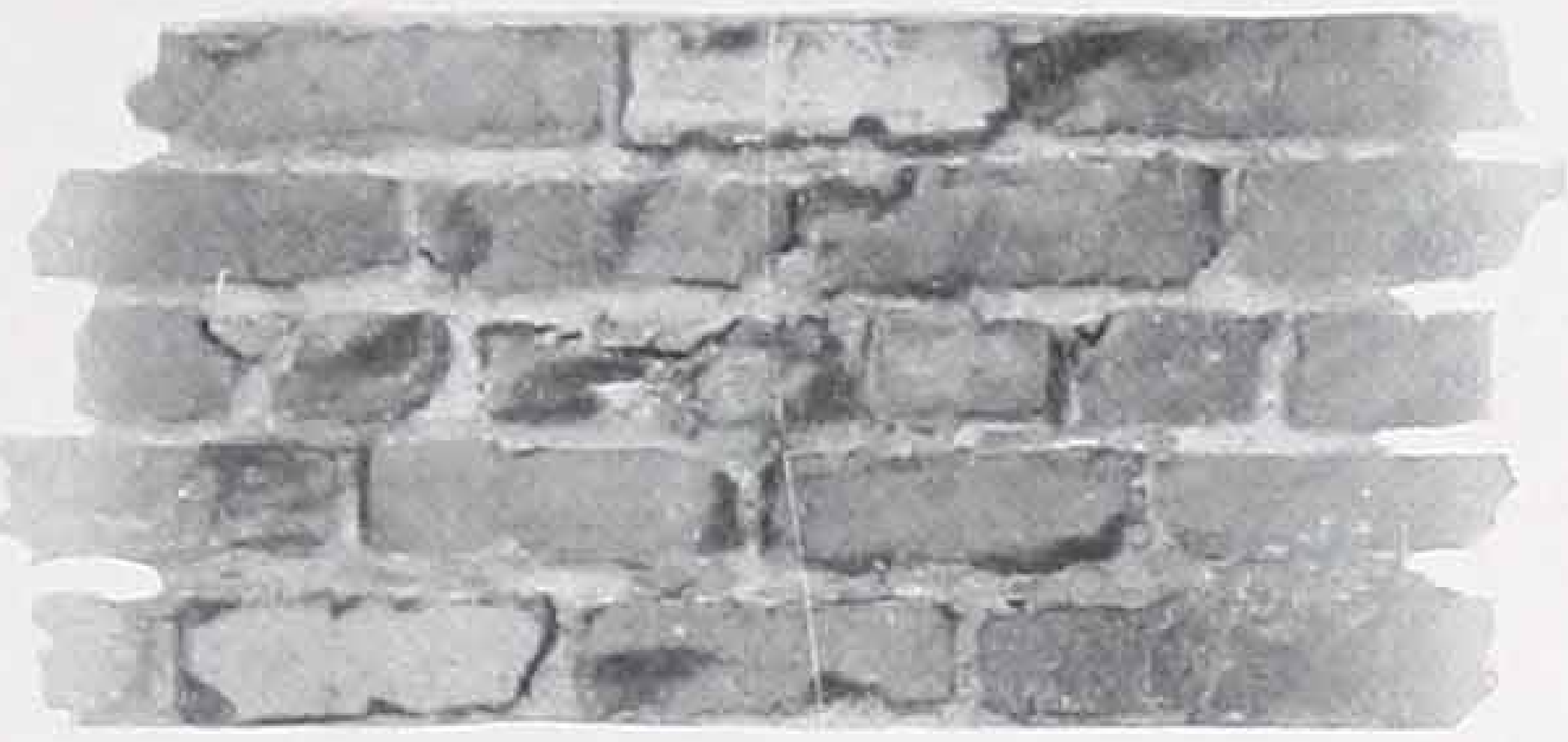
That's why you've learned to keep an open mind on this building game!

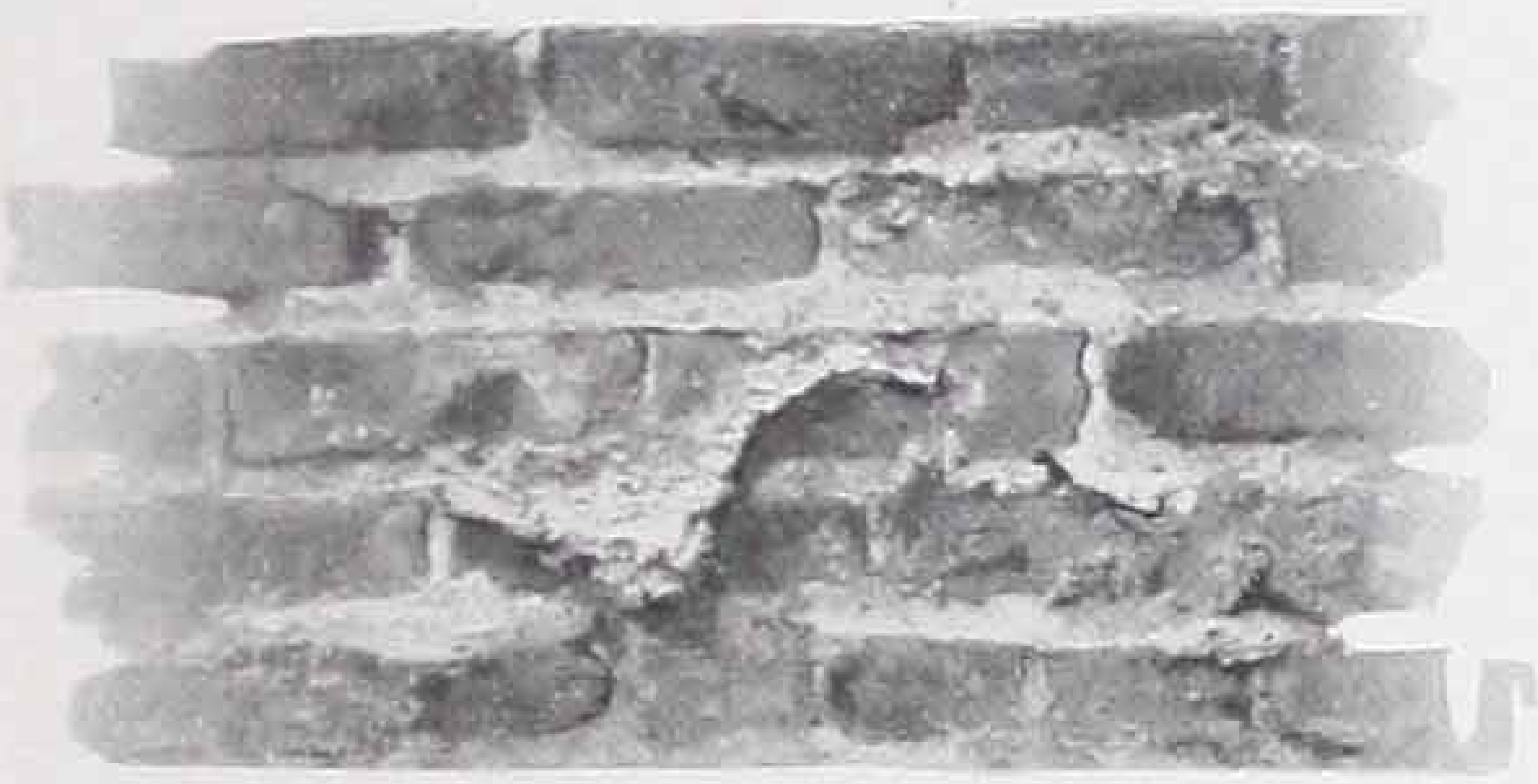
Here are some facts that you can't ignore regarding three of the most frequently used materials:—

Brick

The use of the best brick obtainable, and the employment of highly skilled labor, secures admirable results, but unfortunately, the process is almost prohibitively expensive.

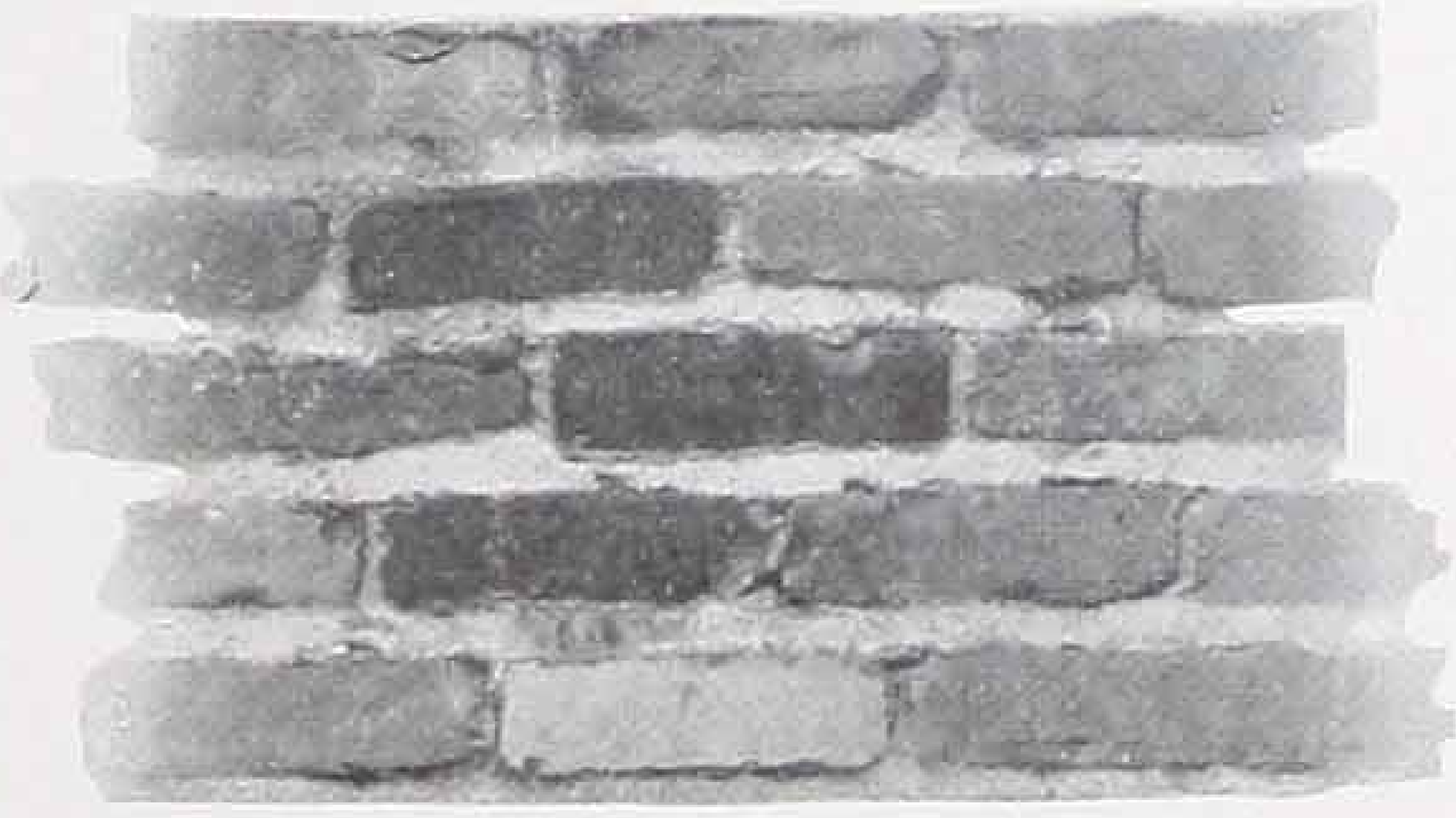
It is most unsatisfactory, moreover, to use the cheaper grades of brick, as certain undesirable effects are almost inevitable—such as variation in color, lack of uniformity, etc.—as shown in the accompanying illustrations.


Lack of Uniformity


Poor Courses

Even with the best of brick it often happens that poor brick-laying will cause irregularities of the courses and consequent dissatisfaction.

These objections may seem slight at first, when the structure is new, but as time goes on they become more and more of an eye-sore to the owner.


Unsightly!

Frame

Probably the chief defect of this material for building is its great inflammability.

Aside from this it deteriorates rapidly, and must be painted at least every other year. In addition to the inconvenience and expense of this, if it is not done carefully and skillfully the paint will blister and crack, and a host of defacements result.

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Another form of constuction used with varying success is the shingled wall.

We all know the tendency of shingles to warp and become loosened, and they are at best unsatisfactory for the purpose. They are used primarily because of their low cost, and because of the artistic effect obtainable in certain types of houses. These considerations have been urged for their use, in spite of the inherent faults of wood itself, such as its speedy deterioration, the necessity of frequent paintings or costly staining to preserve it, and the impossibility of maintaining, either in summer or winter an equable temperature in houses where it has been used for siding.

In addition to these disadvantages, it is now impossible to obtain the best grade of shingles, on account of the exhaustion of the supply. The first grade is no longer to be had in the market, and within ten years the price of the second and third grades has risen over 50%.

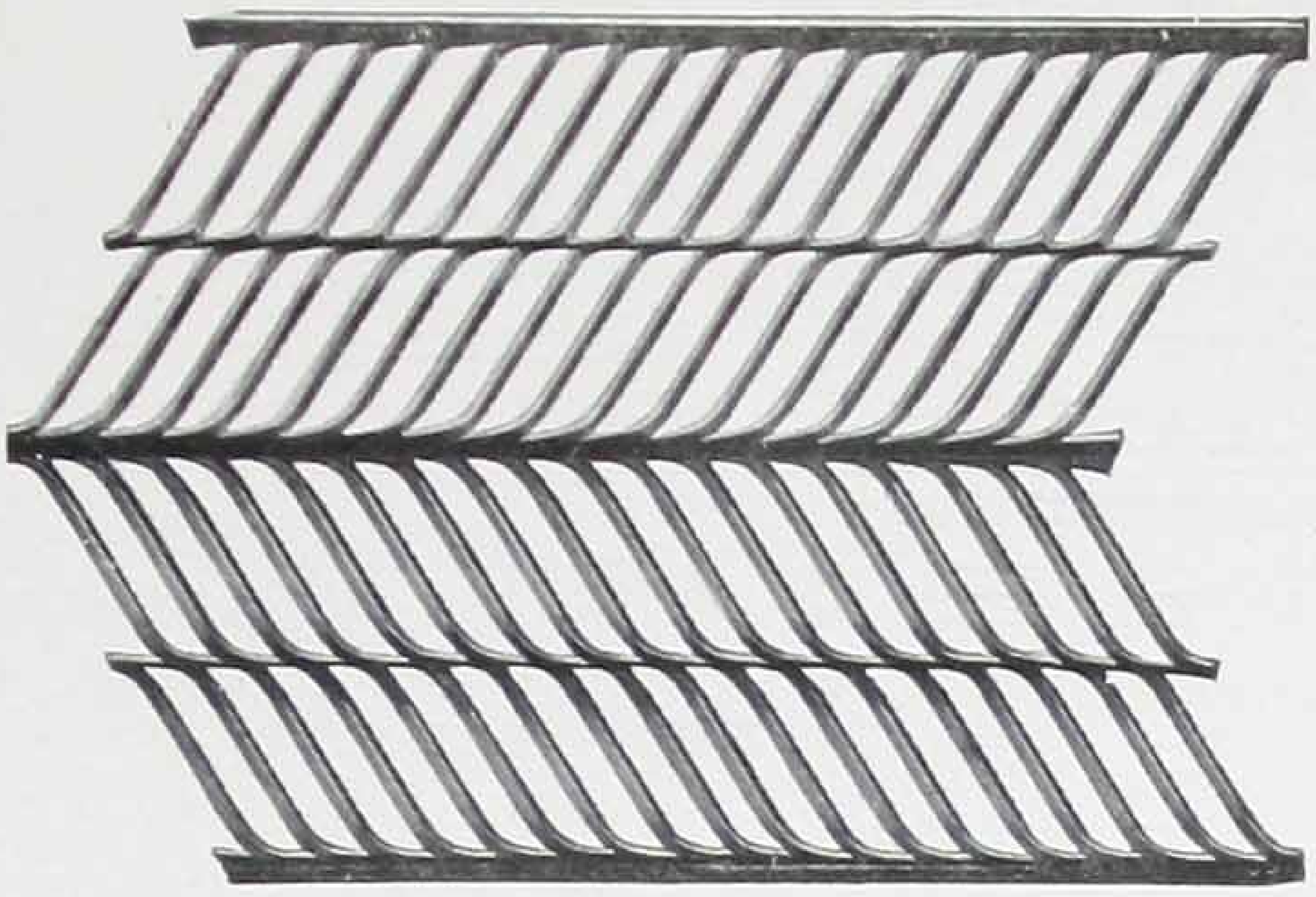
Paint every two years

Stucco

As against the high cost of brick and the inferiority of frame, *stucco*—the modern construction—is inexpensive and affords not only the utmost durability, but lends itself to the most artistic designs.

By a stucco house we mean a skeleton frame of wood with cement walls bonded together and reinforced with a lath of steel.

There have been several types of reinforcement for this form of construction, but so general has become the use of Herringbone Lath, on account of its superiority, that houses of this sort have come to be known almost universally as Herringbone Houses.



All over the country these Herringbone houses—the most pleasing examples of fire-resisting construction—are giving immense satisfaction.

The advantages of stucco, as a result, are now entirely established, and the resulting popularity of Herringbone as a base is almost equally well-known.

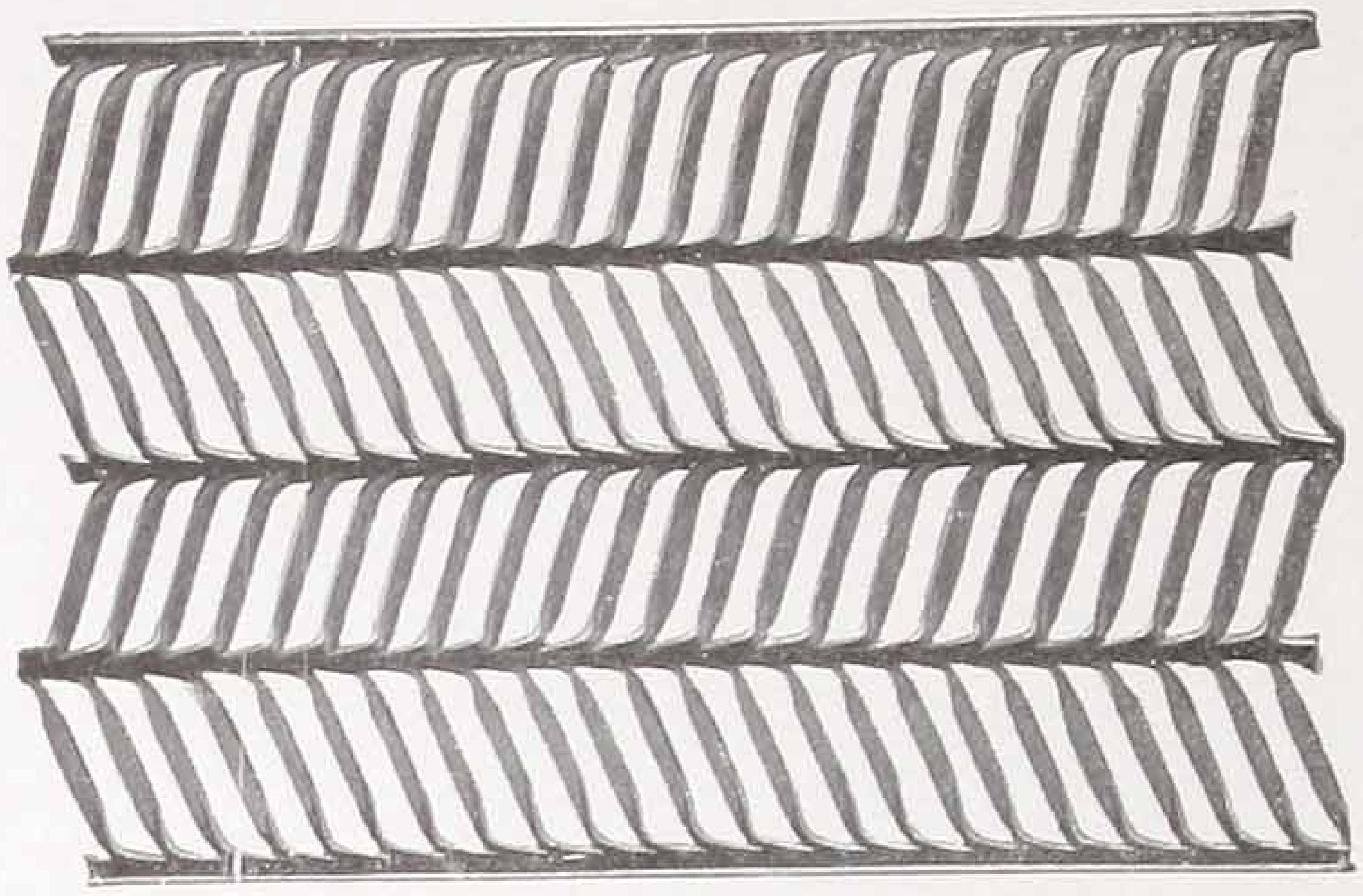
The constantly increasing demand for structures of this kind caused the marketing of many styles and types of metal lath, but that which has been found most efficient, and which has won the favor of the leading architects and builders, is the Expanded Metal type, of which Herringbone is the leading exponent.

The rigidity of Herringbone insures a plaster coating of even thickness; its peculiar construction being an aid to this end.

The first essential of an Expanded Metal lath is rigidity. So well-designed is Herringbone in this respect that many architects specify it two gauges lighter than any other lath, and the Herringbone standard for the spacing of studs is 16-inch centers as against the 12 inches of other makes. Contractors, in fact, effect a saving of at least five cents per square yard on the cost of studs and as much more on the erection and plastering of Herringbone purely because of its rigid construction.

The small twisted cross-strands of Herringbone present a flat surface to the trowel instead of a cutting edge, and this secures an even distribution of the mortar, which curls about the heavy longitudinal ribs, and completely enters the interstices, and in its perfect enclosure of the strands, forms an absolutely permanent key.

The exclusive features of Herringbone construction, by effecting the complete enclosure of the lath, almost entirely obviate any possibility of corrosion, but for special conditions, where the work is exposed to salt air, gases, or acids, and for use in very damp climates, Herringbone Ingot Iron Lath has been expressly designed.



It might be supposed from the beauty of the Herringbone Houses shown on the pages following, that this type is employed most often where special permanence, beauty and modernity of construction are demanded, and where cost is the least consideration.

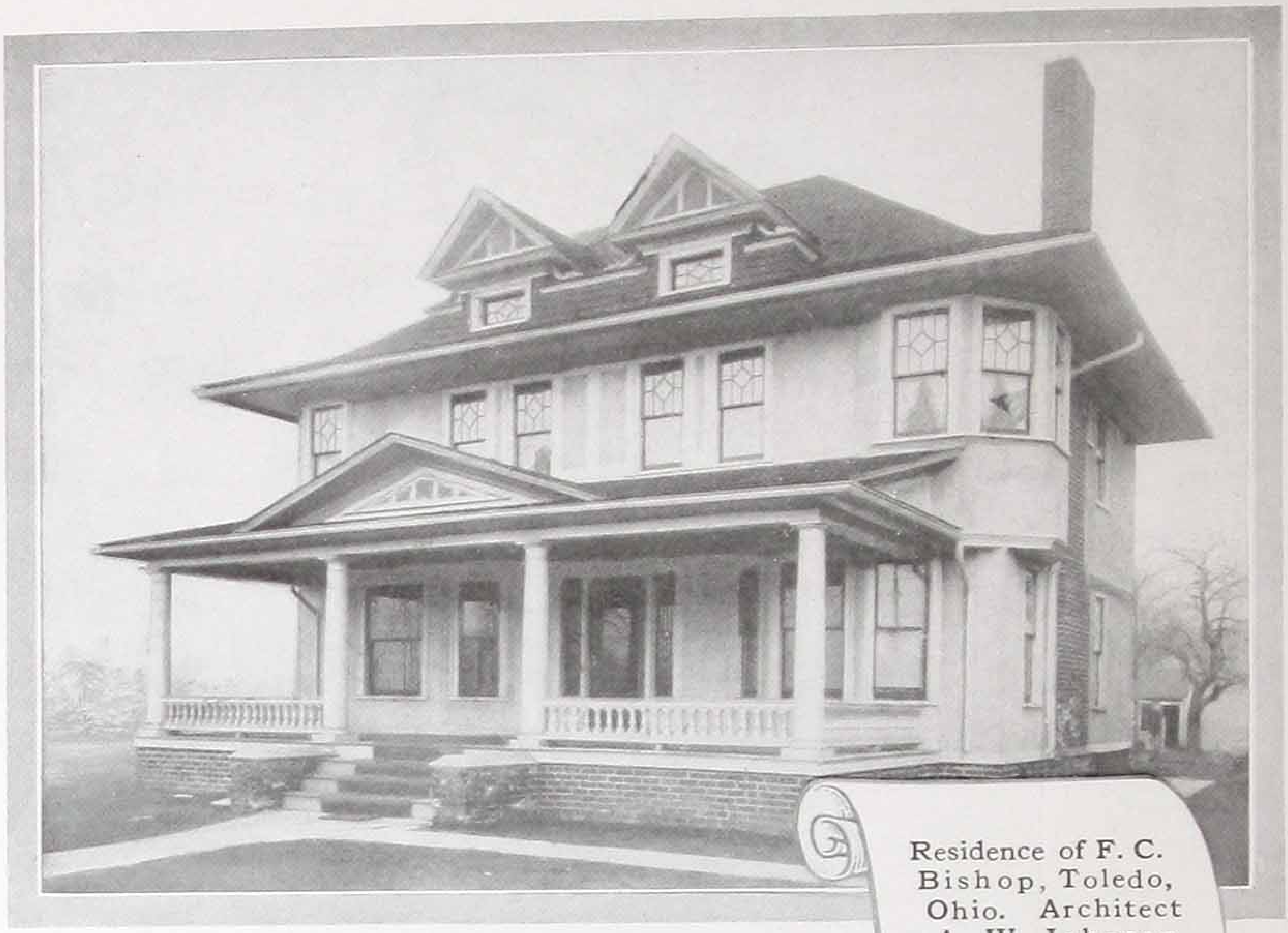
While it is true that Herringbone is most frequently used by the leading architects on work where especial excellence and artistic quality is sought, the testimony of the years has proven that Herringbone is not a great deal more costly than wood siding itself, and in the long run is even more inexpensive.

Herringbone Houses are unaffected by the ravages of time, and acquire an added beauty and strength with age. No paint is needed periodically, no fissures or defacements appear, and the construction is the best exterior fireproofing known. Herringbone Houses are delightfully cool in summer and conserve the heat in winter. They combine the advantages of stone and masonry at the cost of mere wood, and are ideal from the standpoint of both excellence and economy.

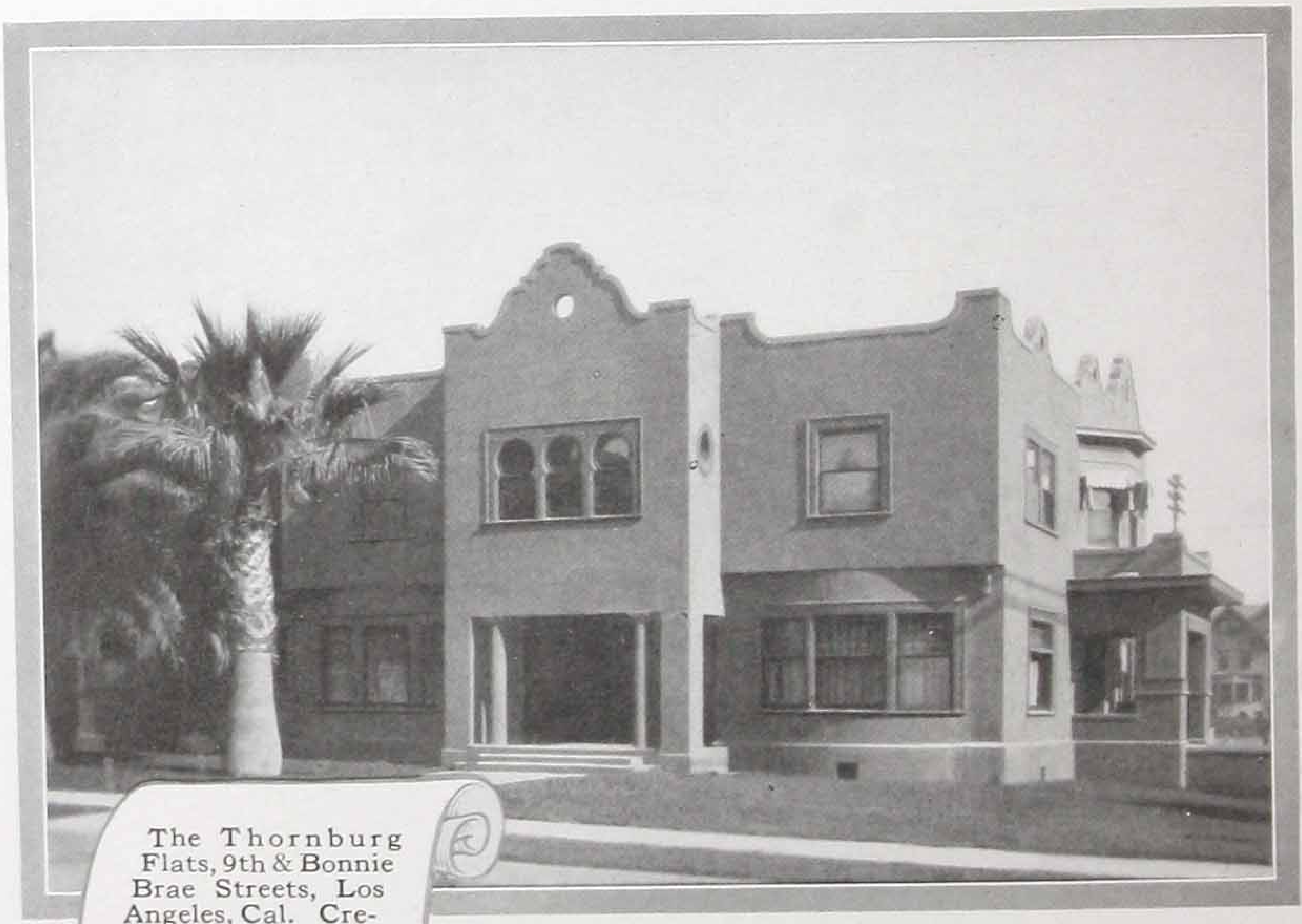
It is a significant fact that it is the leading architects with whom Herringbone is such a preferred construction, and that they are specifying it not only for their most particular clients, but for their own homes.

ON the following ten pages we show pictures of a wide variety of stucco houses in which Herringbone is used.

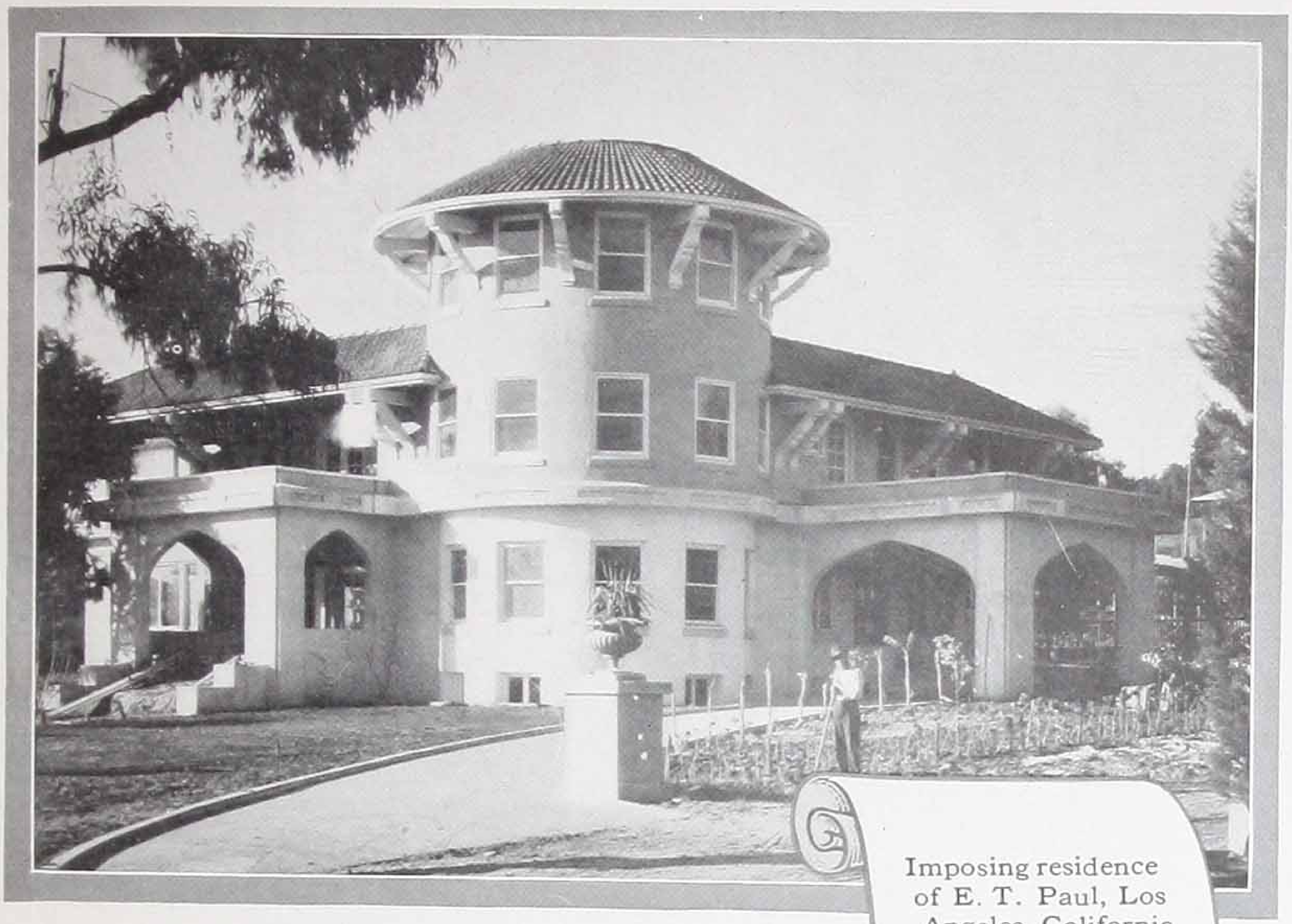
¶ These are intended to show you that Herringbone houses are not in anyway experimental but are to be found all over the country ranging from the modest bungalow to the beautiful mansion and approved by every class of home builders and leading architects of the country.



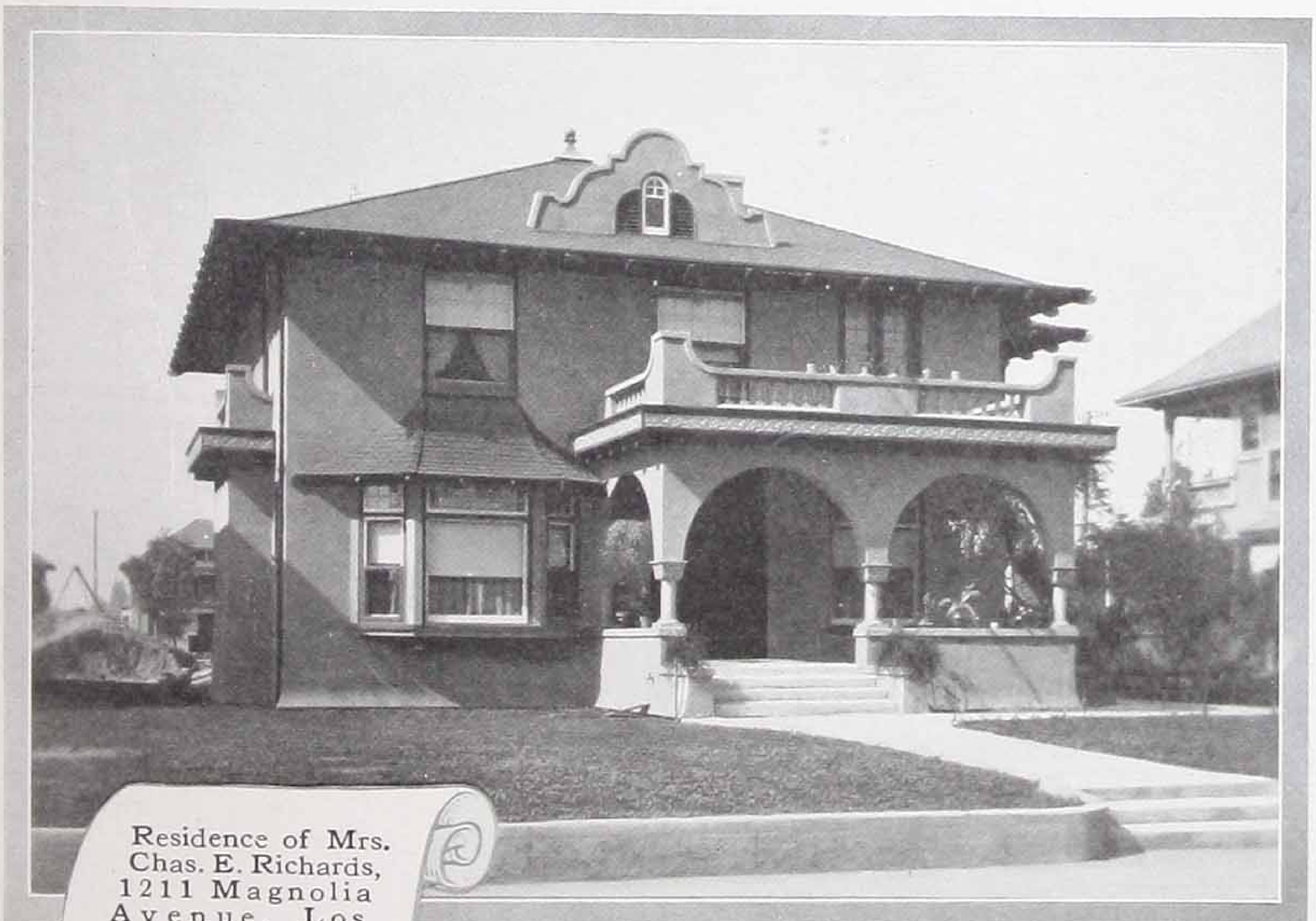
Residence of F. C. Bishop, Toledo, Ohio. Architect A. W. Johnson.



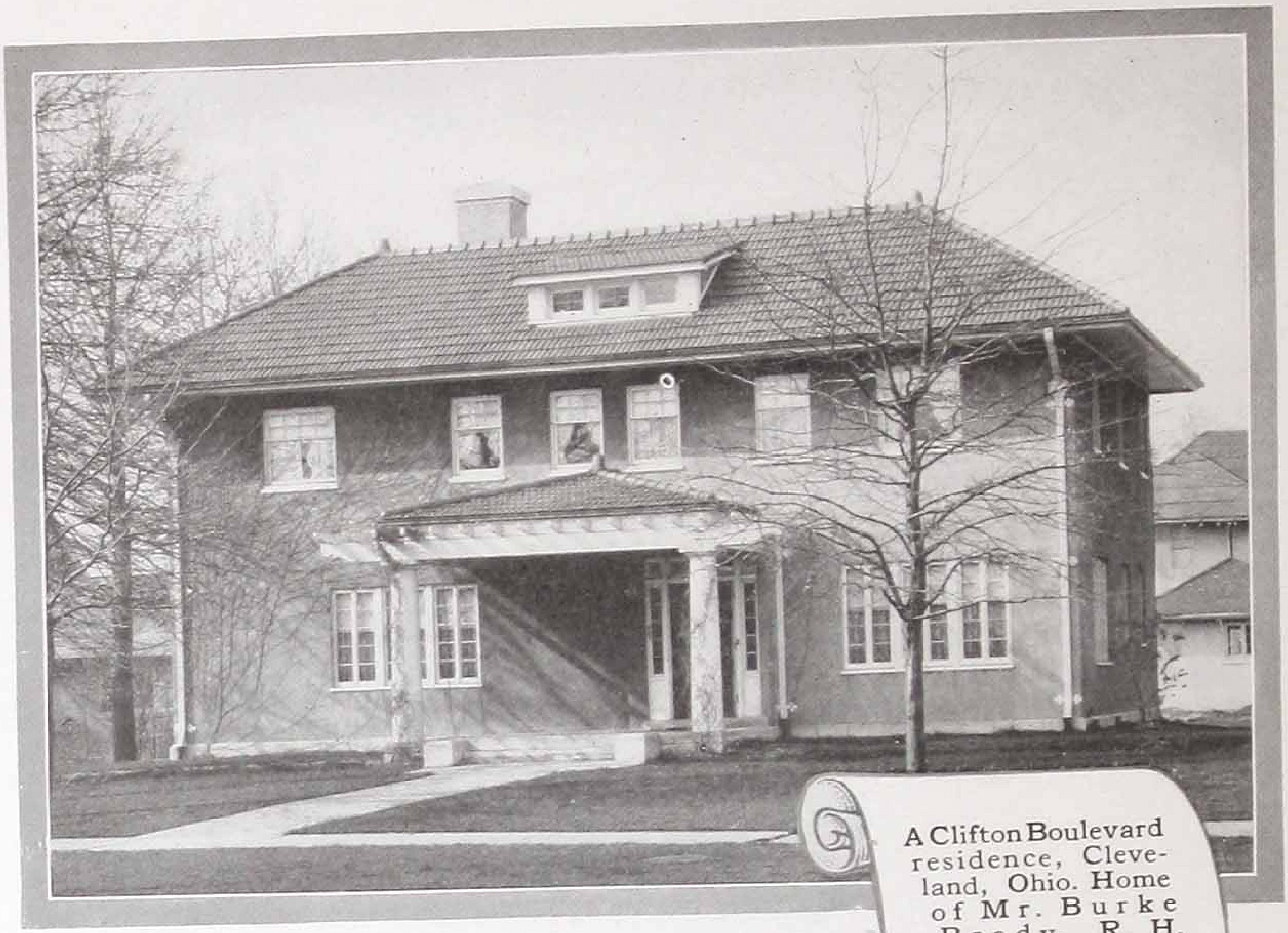
The Thornburg Flats, 9th & Bonnie Brae Streets, Los Angeles, Cal. Creation of Architect Lester S. Moore.



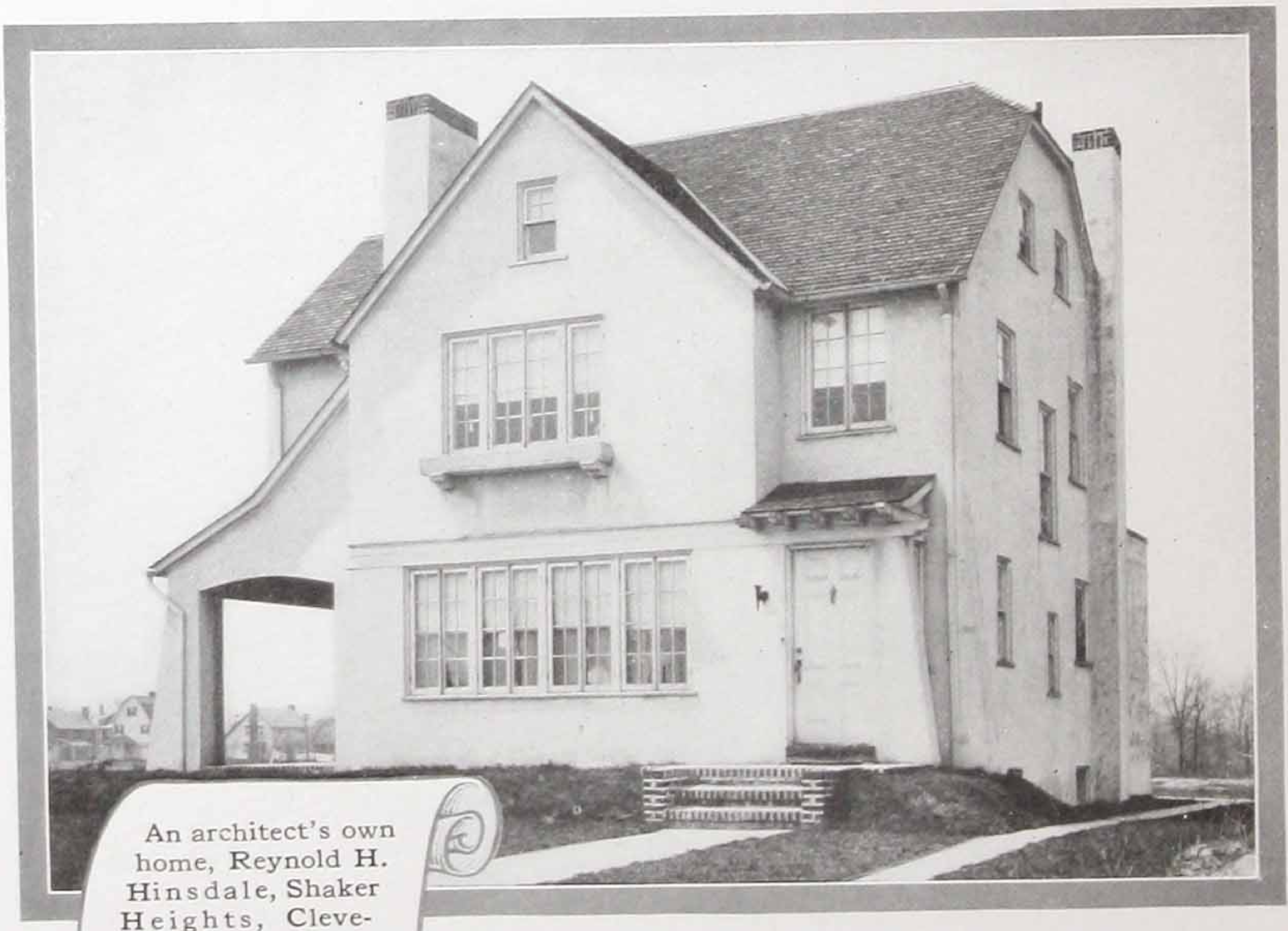
Imposing residence of E. T. Paul, Los Angeles, California



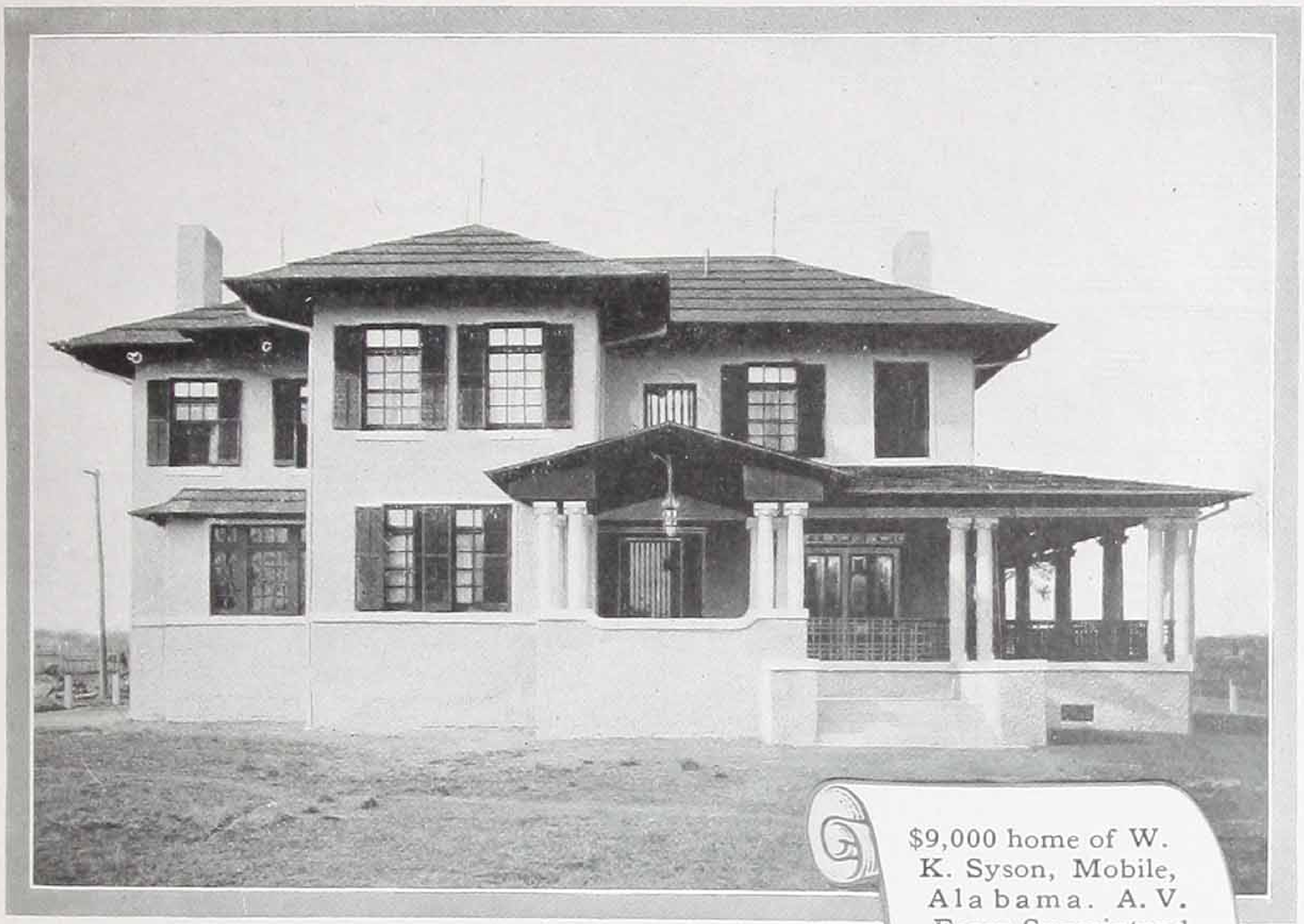
Residence of Mrs. Chas. E. Richards, 1211 Magnolia Avenue, Los Angeles, Cal. W. H. Dennis, Architect.



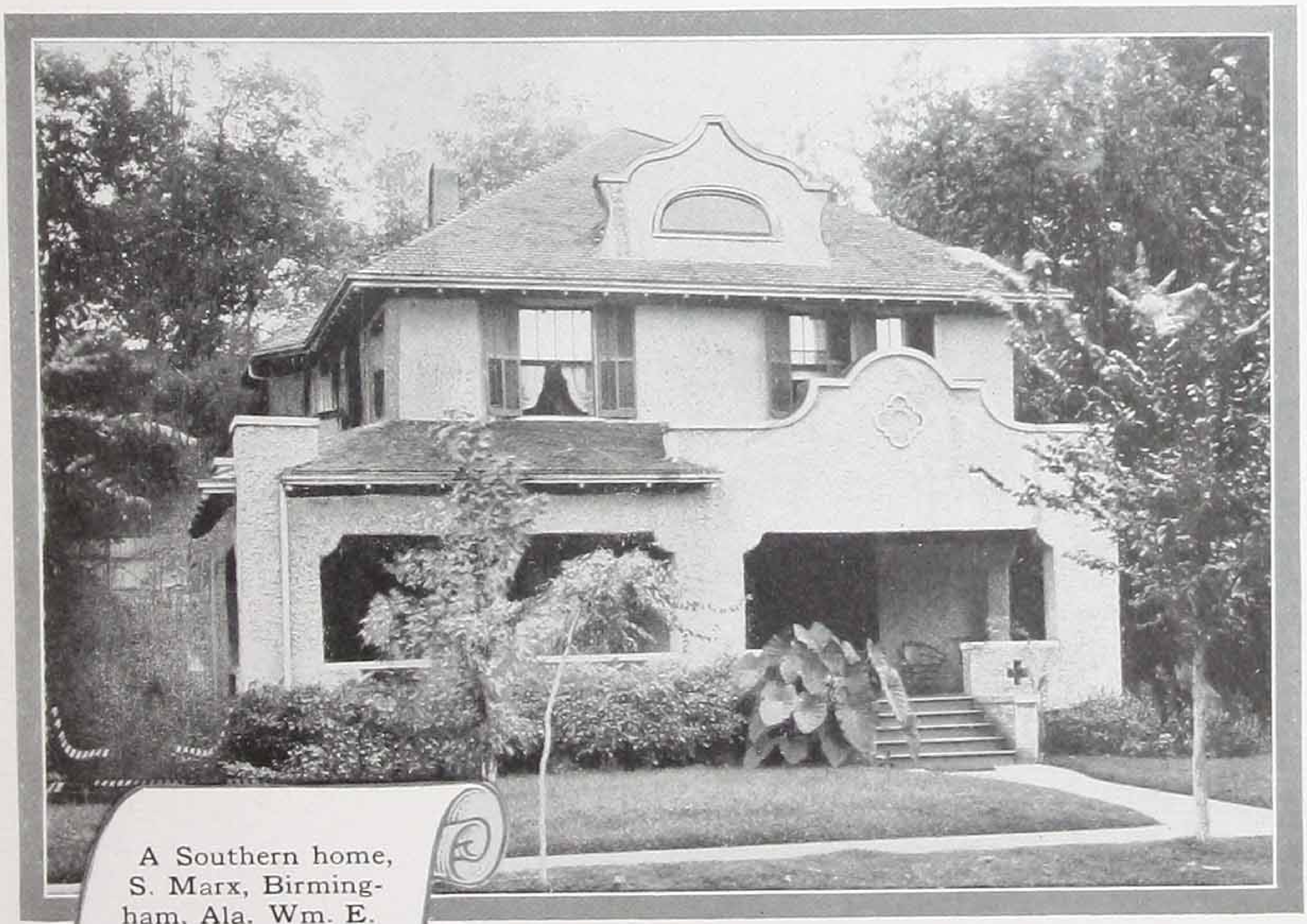
A Clifton Boulevard residence, Cleveland, Ohio. Home of Mr. Burke Brady. R. H. Hinsdale, Arch't.



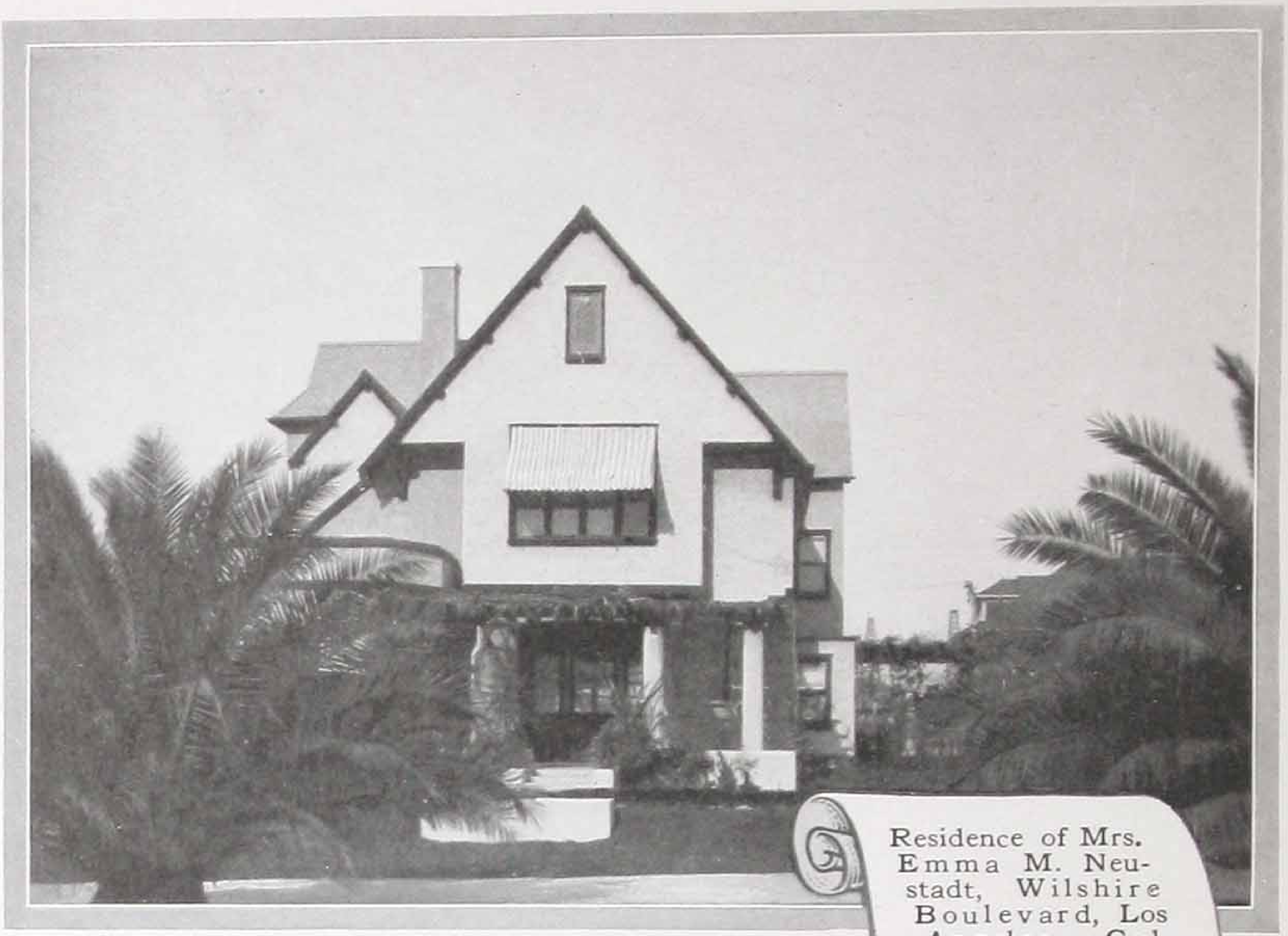
An architect's own home, Reynold H. Hinsdale, Shaker Heights, Cleveland, Ohio.



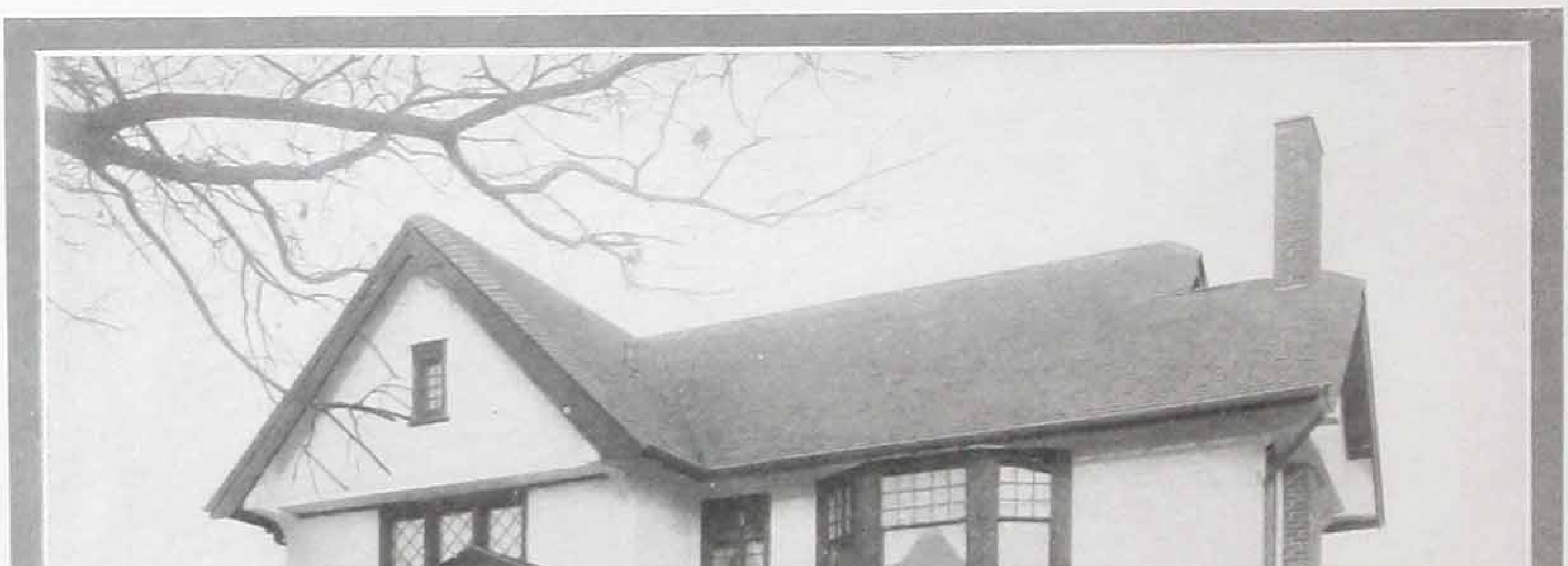
$9,000 home of W. K. Syson, Mobile, Alabama. A. V. Fearn, Superintendent of Construction.



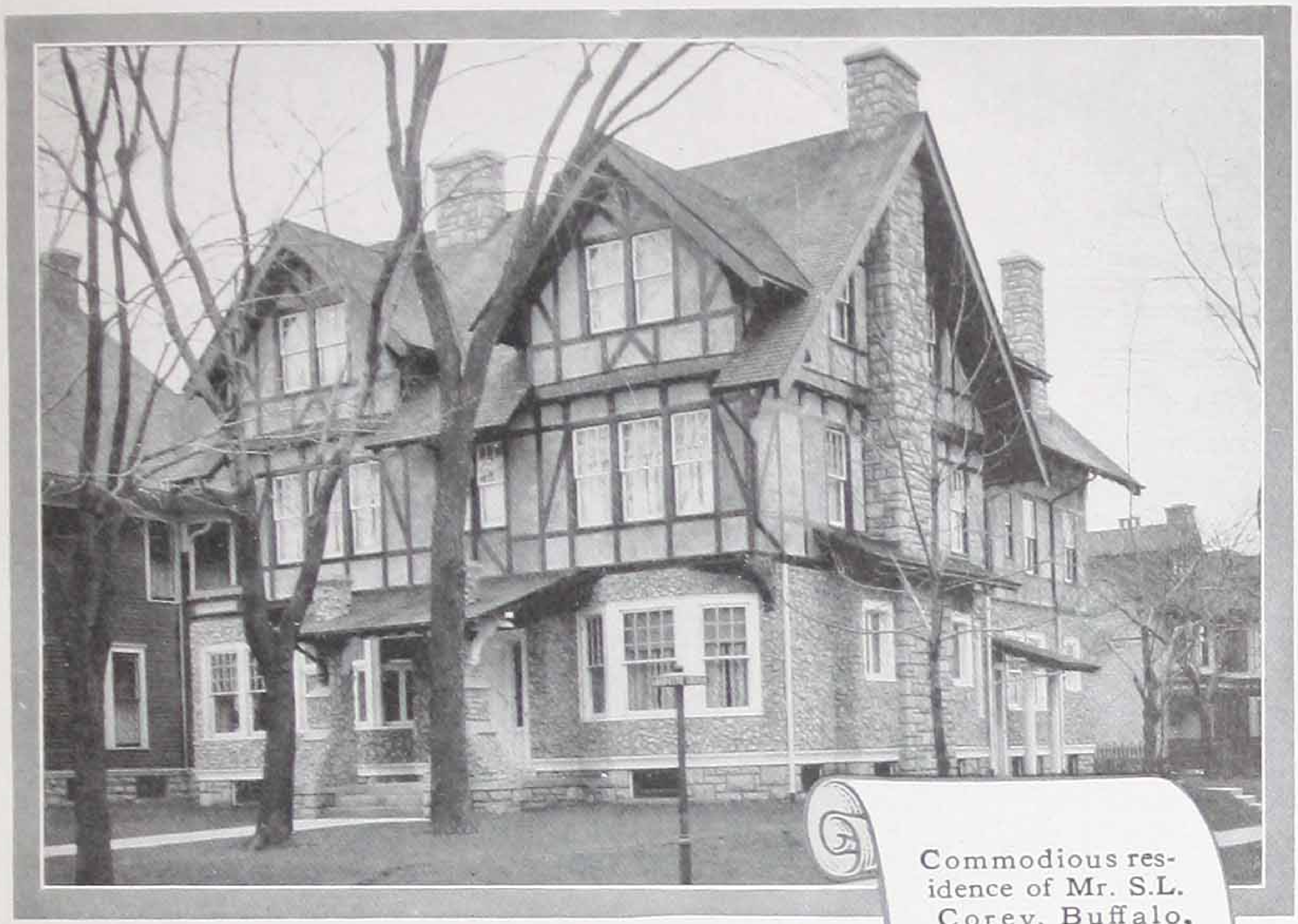
A Southern home, S. Marx, Birmingham, Ala. Wm. E. Spink, Architect.



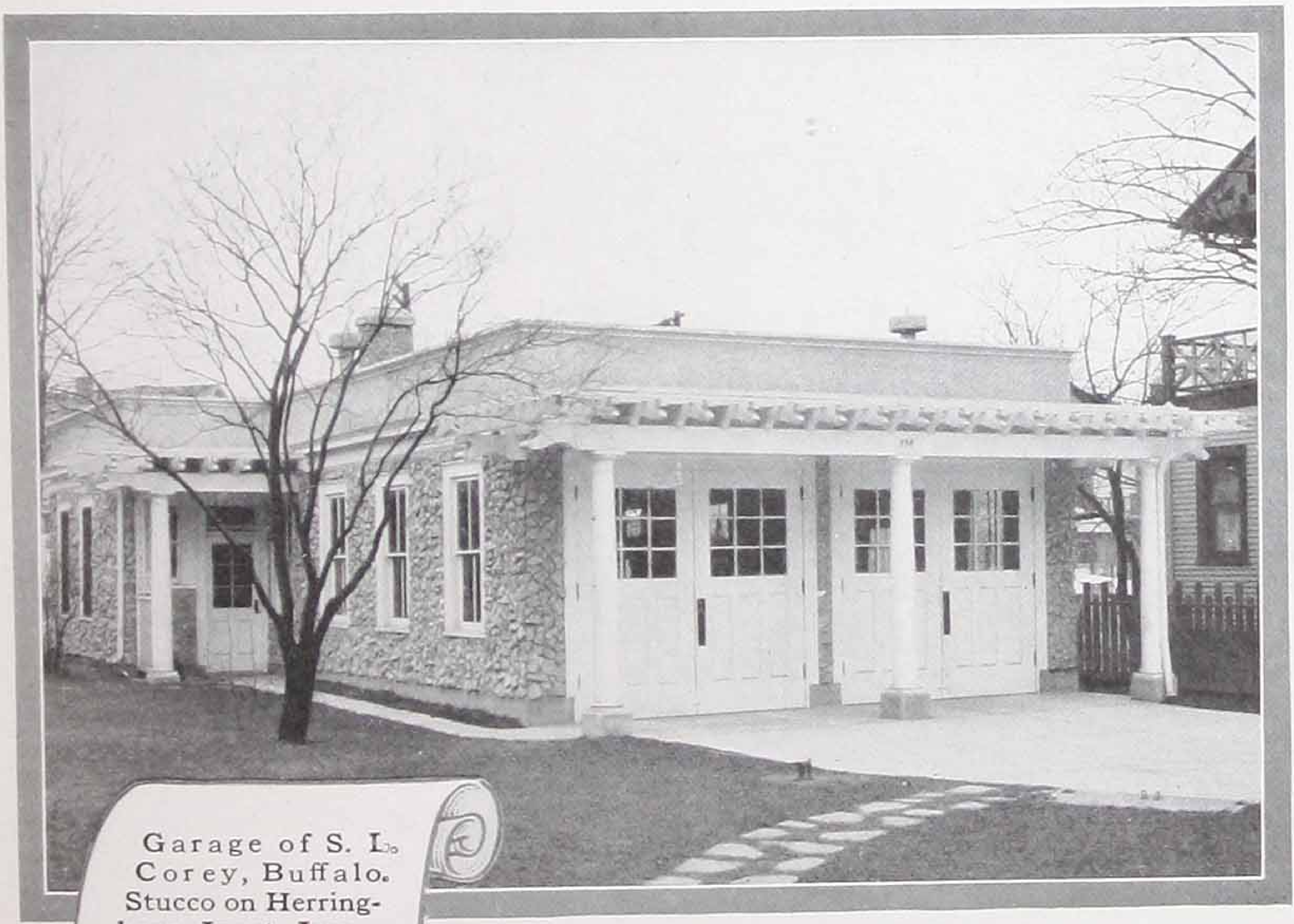
Residence of Mrs. Emma M. Neustadt, Wilshire Boulevard, Los Angeles, Cal. Myron Hunt and Elmer Grey, Arch't



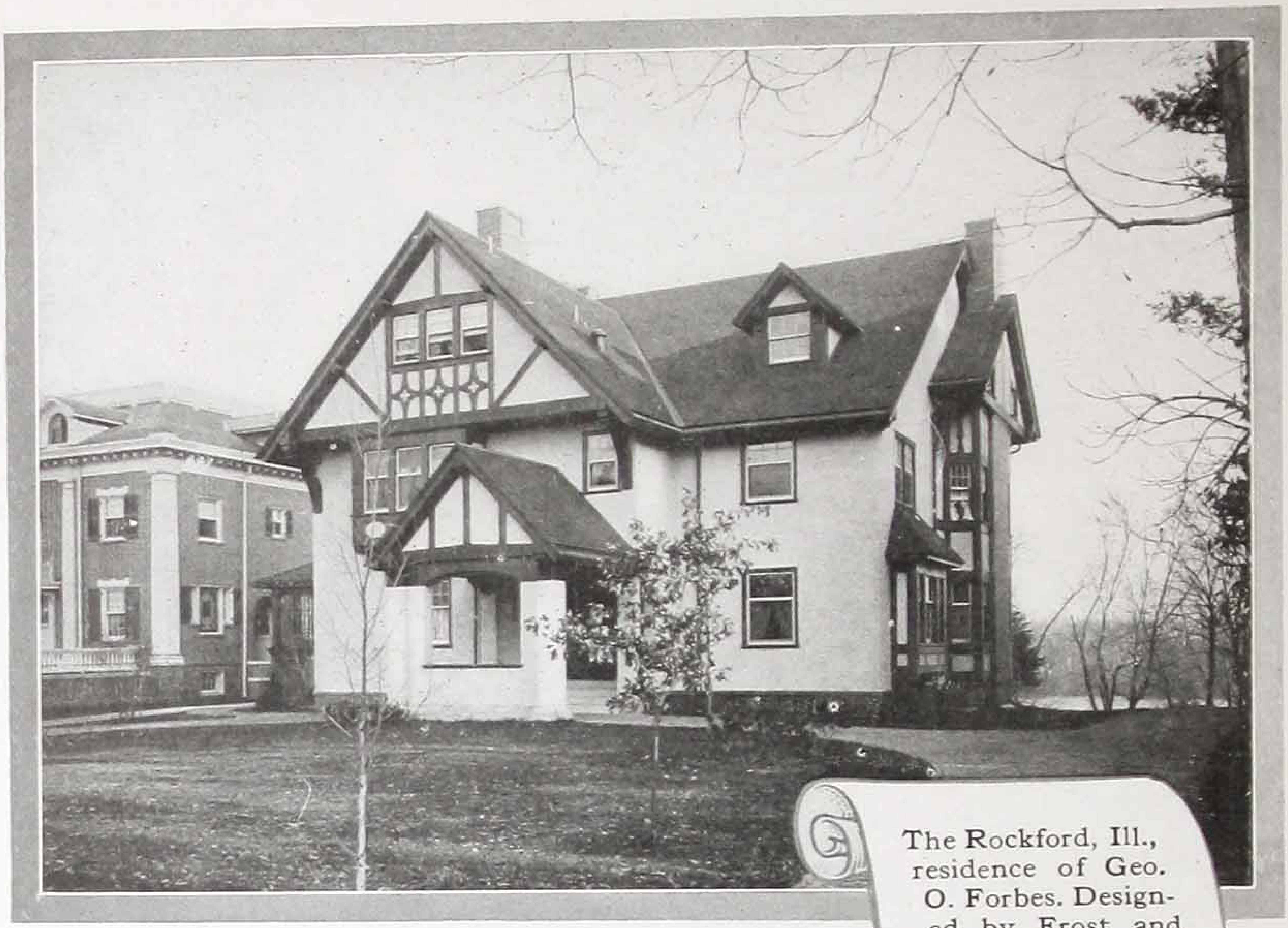
A. W. Johnson, architect, Toledo, Ohio; a doctor who takes his own medicine.



Commodious residence of Mr. S.L. Corey, Buffalo, N. Y.

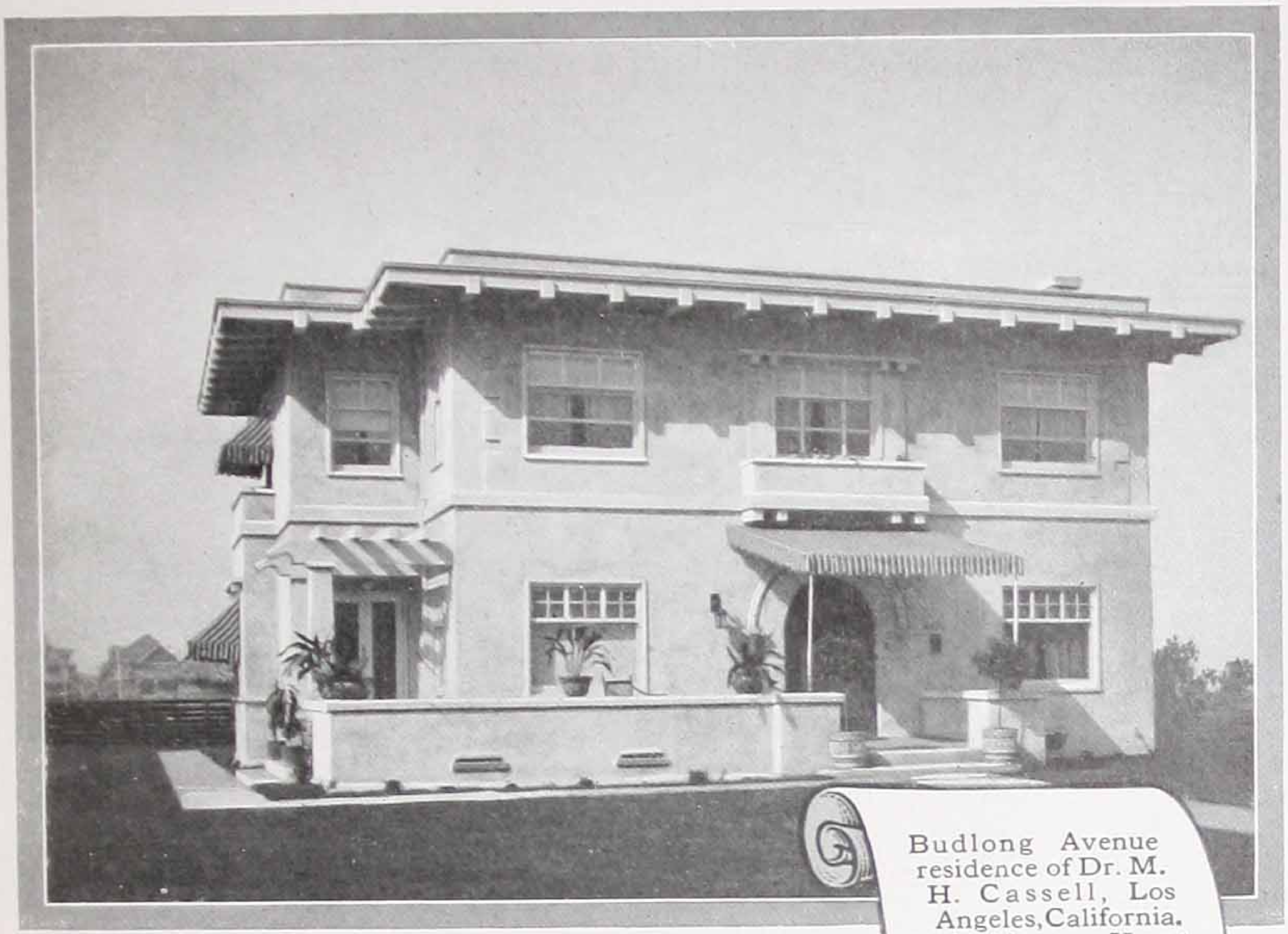


Garage of S. L. Corey, Buffalo. Stucco on Herringbone Ingot Iron Lath.

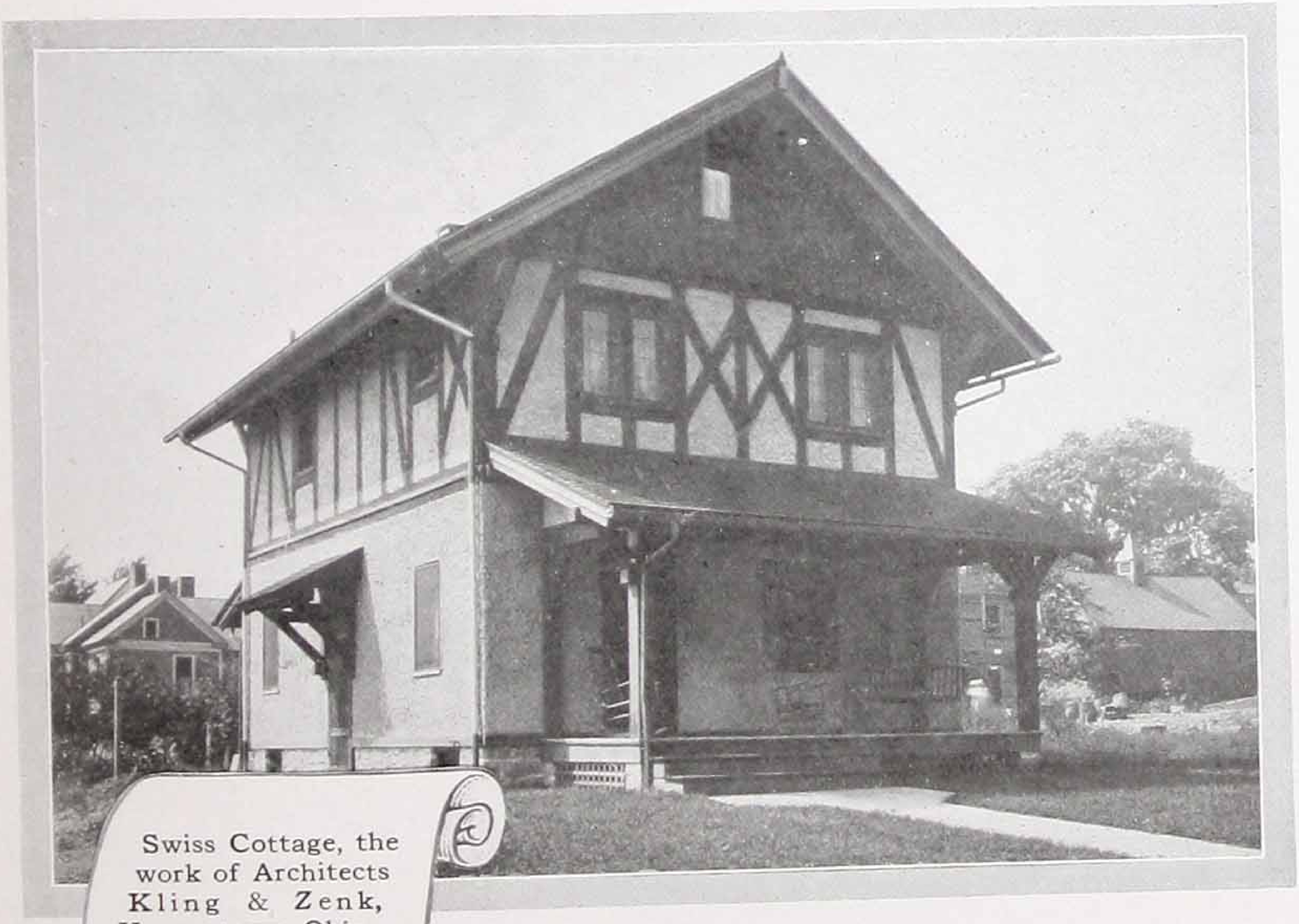


The Rockford, Ill., residence of Geo. O. Forbes. Designed by Frost and Granger, Chicago.

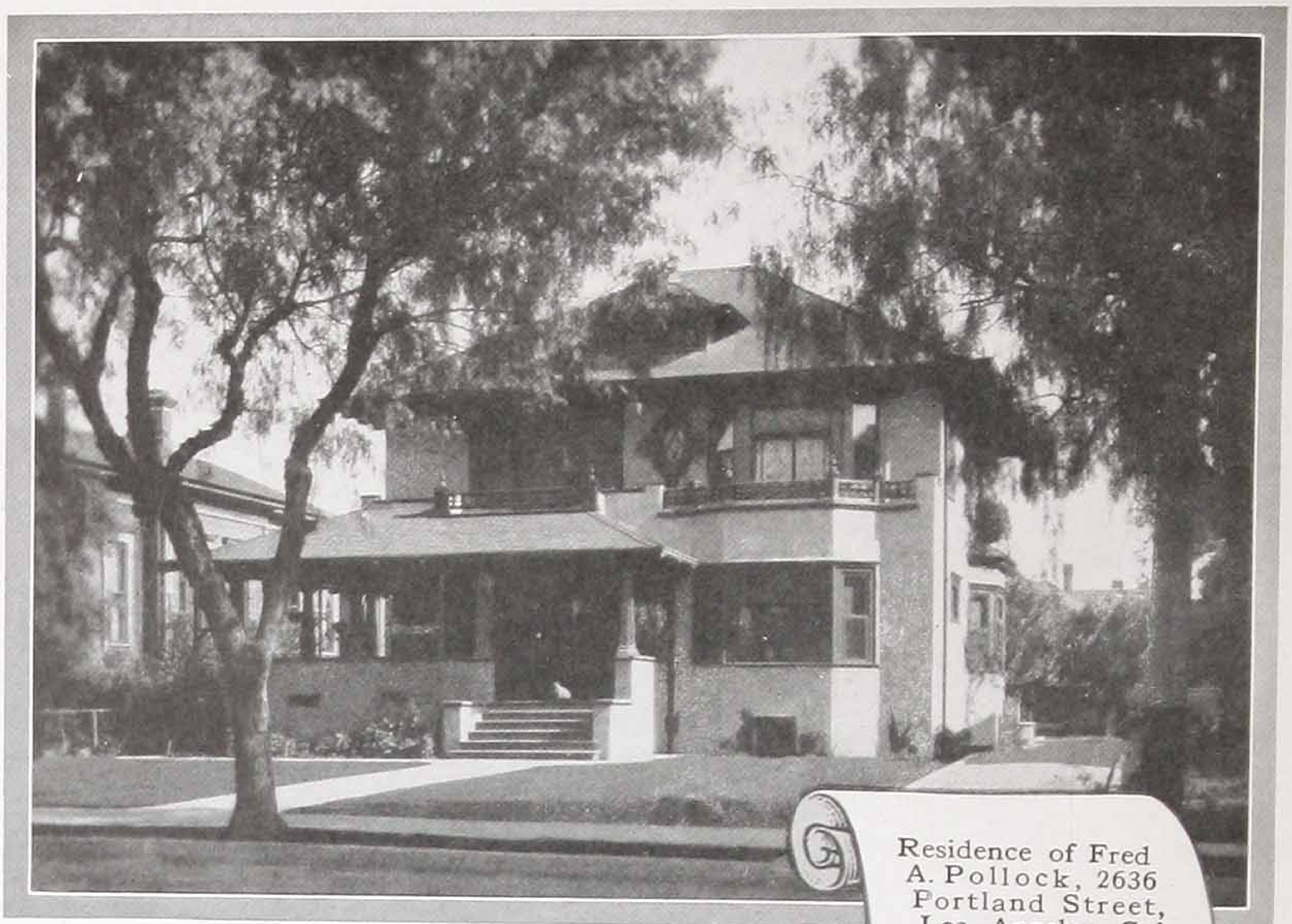
Residence of Edw. S. Ross, Haverford, Pa. Architects McIlvain & Roberts.



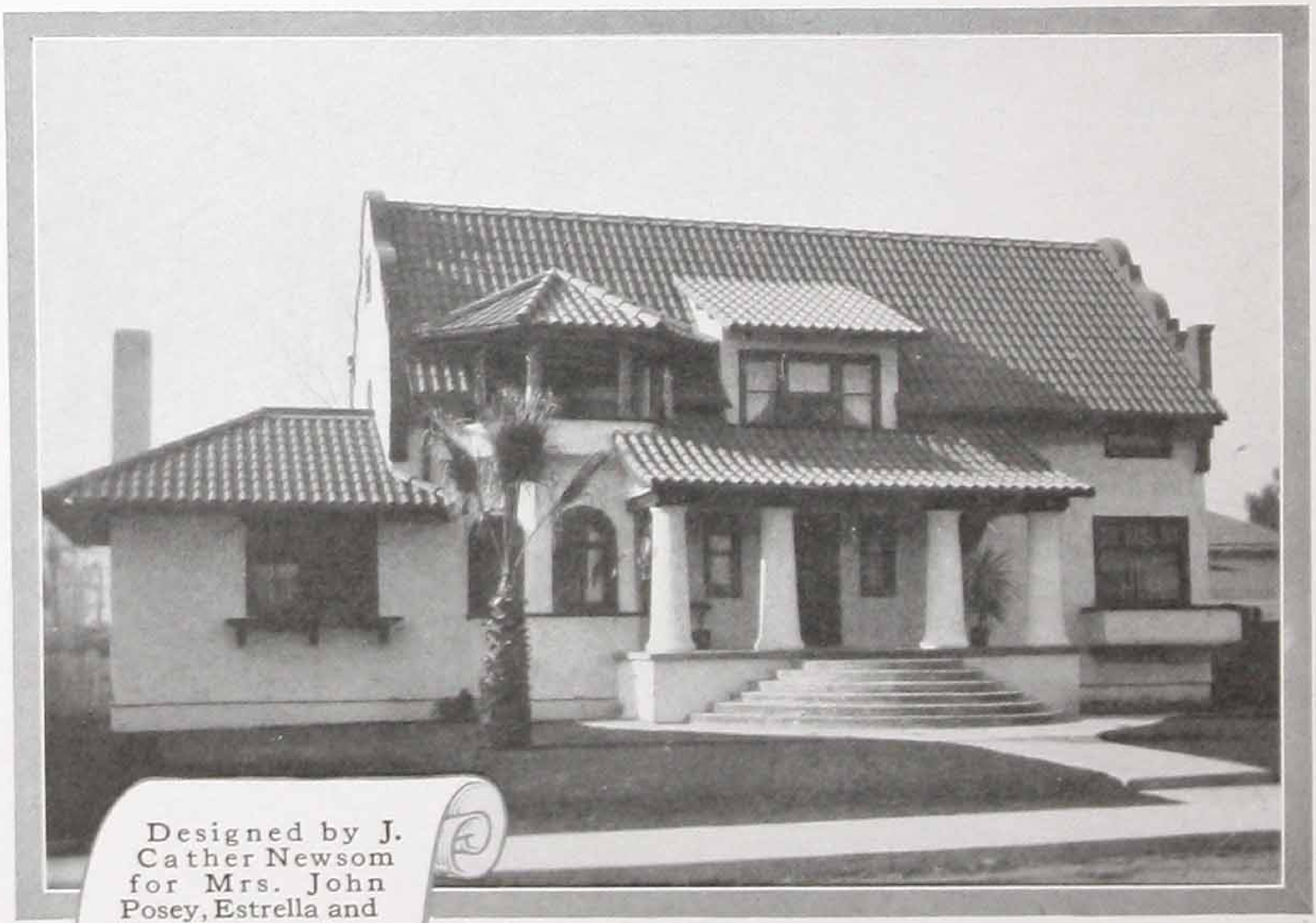
Budlong Avenue residence of Dr. M. H. Cassell, Los Angeles, California. Architects, Hunt and Eager.



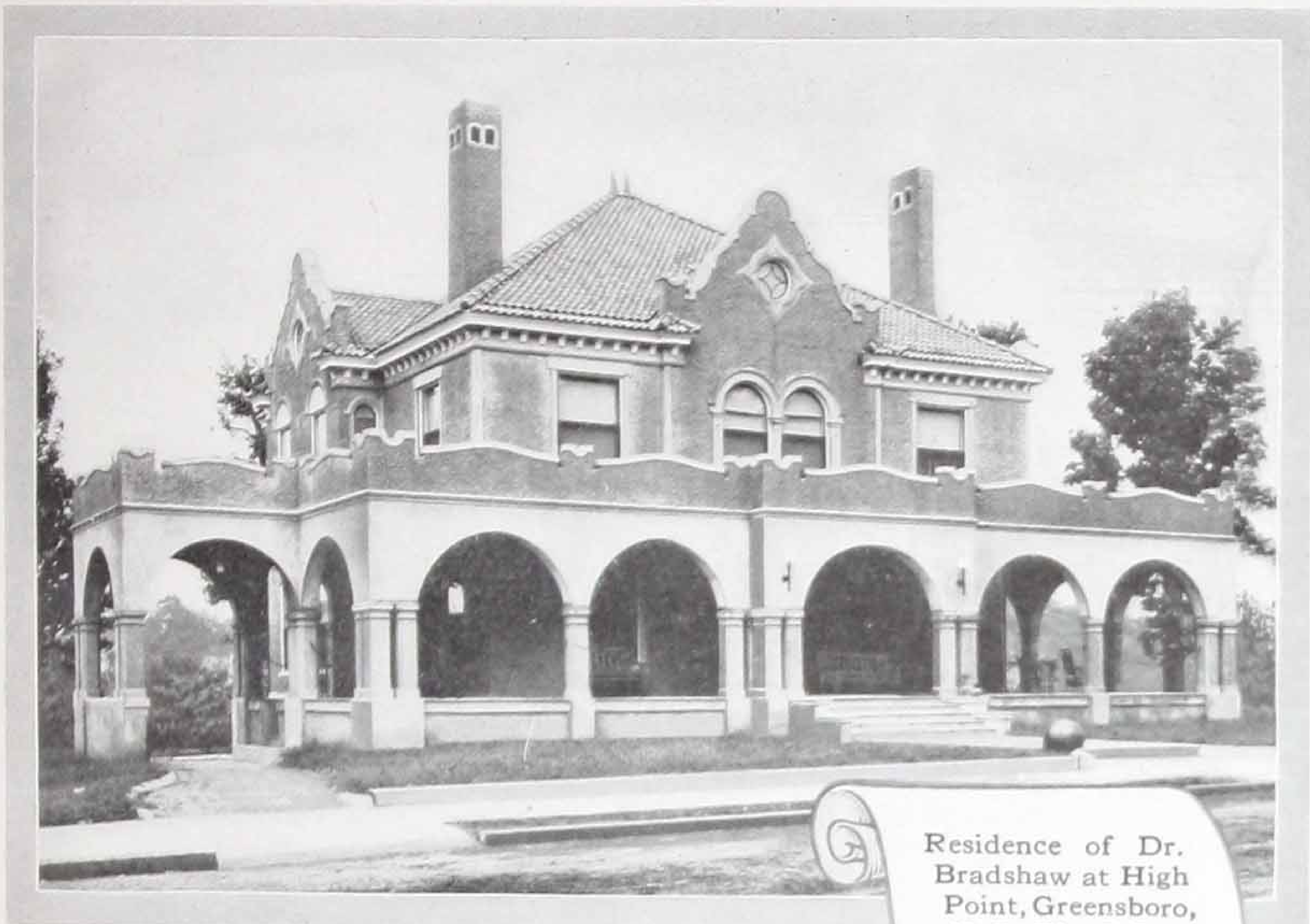
Swiss Cottage, the work of Architects Kling & Zenk, Youngstown, Ohio.



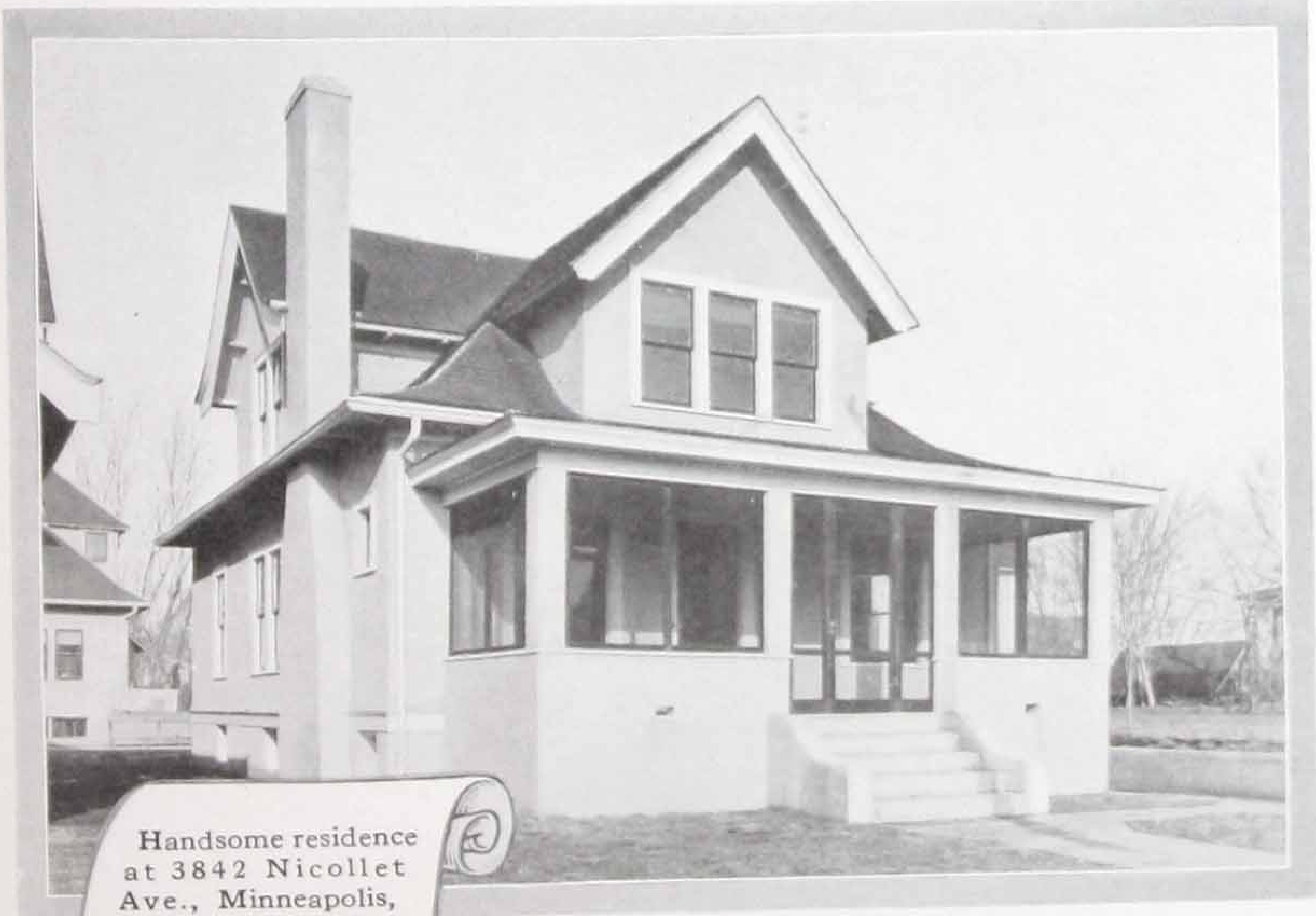
Residence of Fred A. Pollock, 2636 Portland Street, Los Angeles, Cal. Dennis and Farwell, Architects.



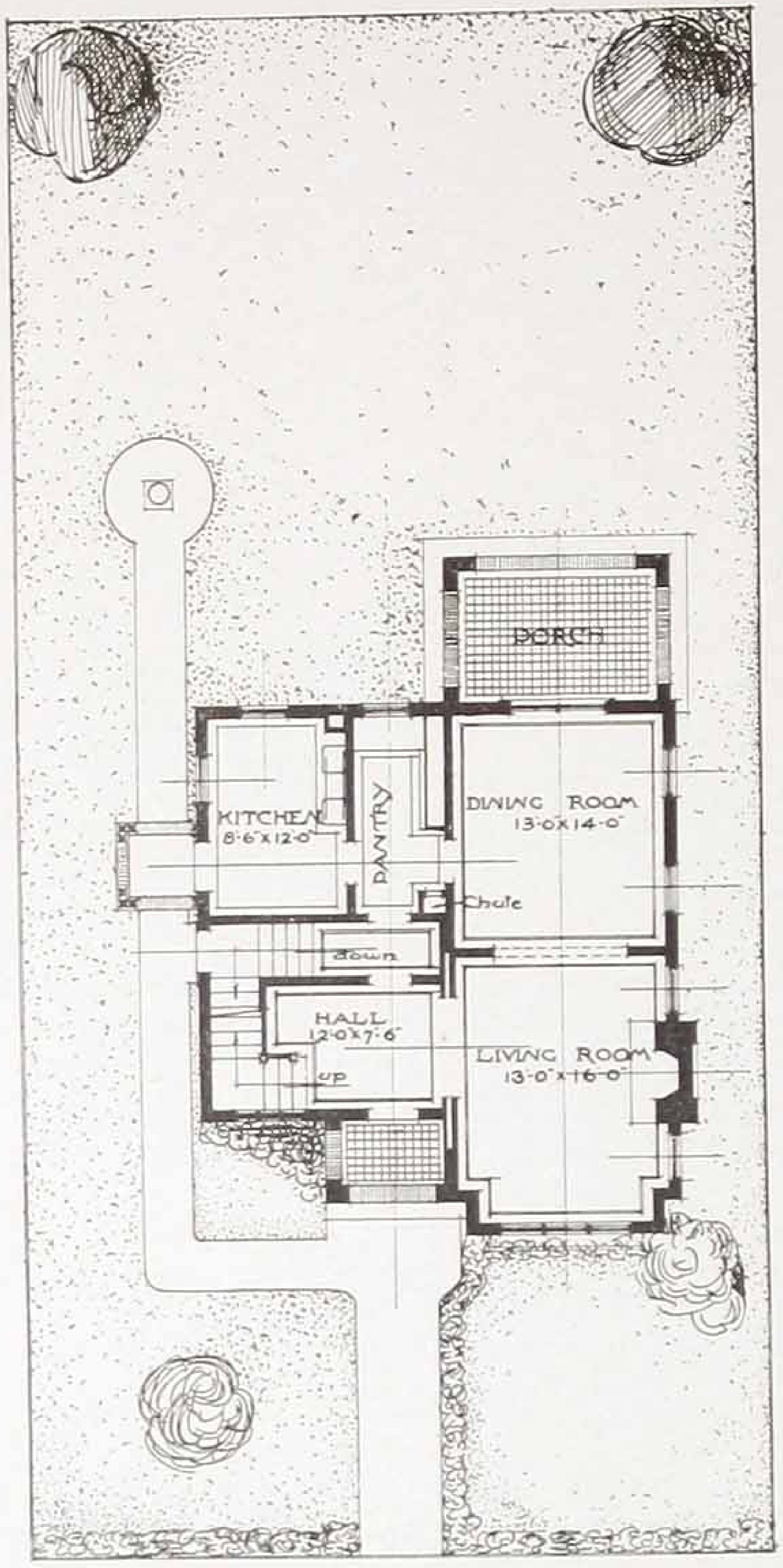
Designed by J. Cather Newsom for Mrs. John Posey, Estrella and 23d Street, Los Angeles, California



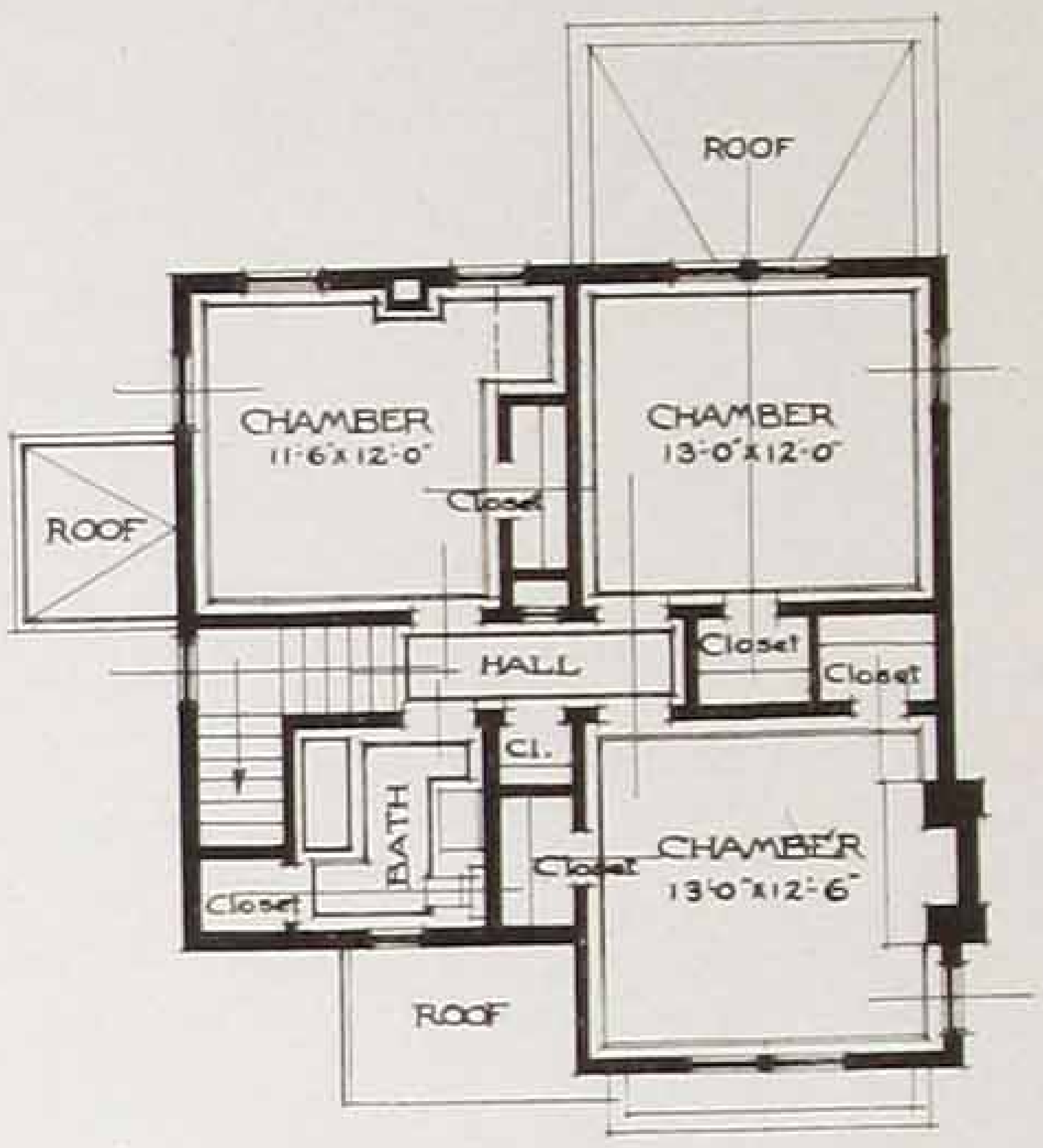
Residence of Dr. Bradshaw at High Point, Greensboro, N.C. Wm.P.Rose, Raleigh, Architect.



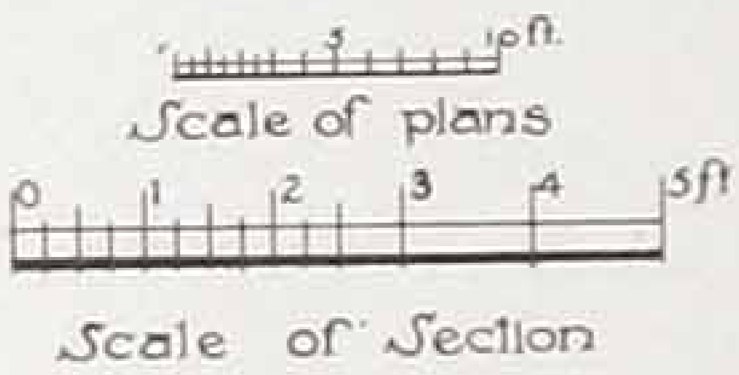
Handsome residence at 3842 Nicollet Ave., Minneapolis, Minnesota. Elof Swanson, Contractor

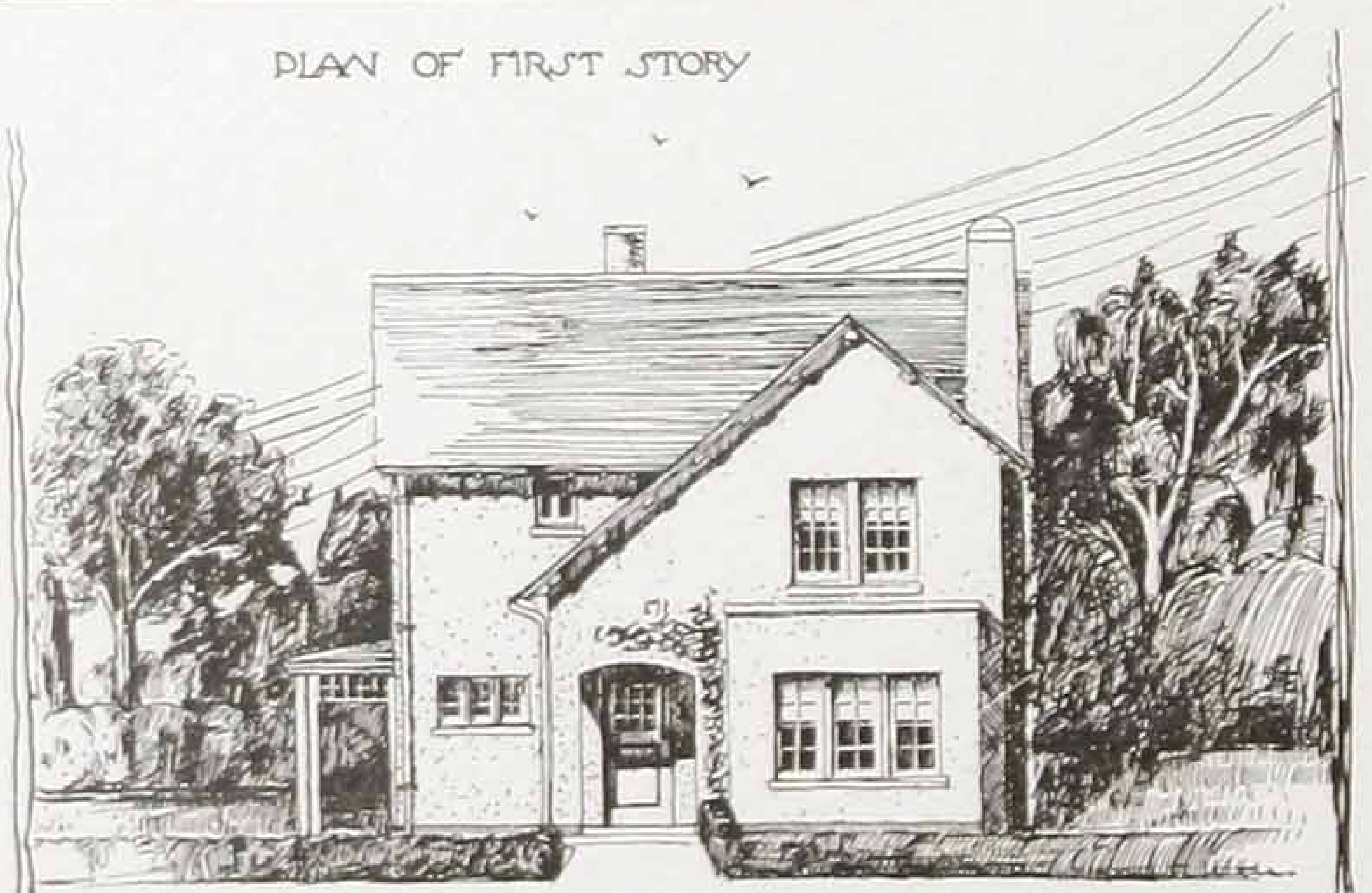


PLAN OF FIRST STORY



PLAN OF SECOND STORY

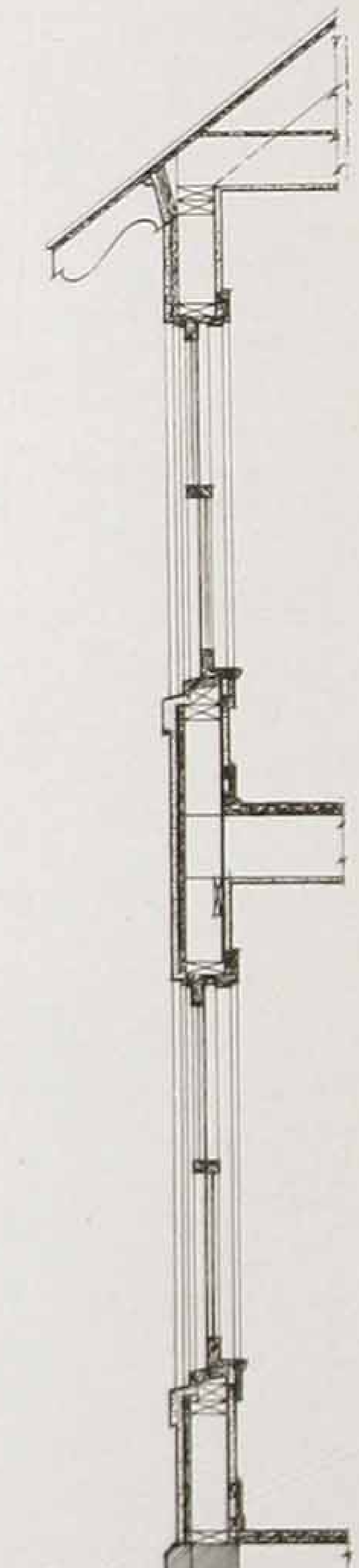




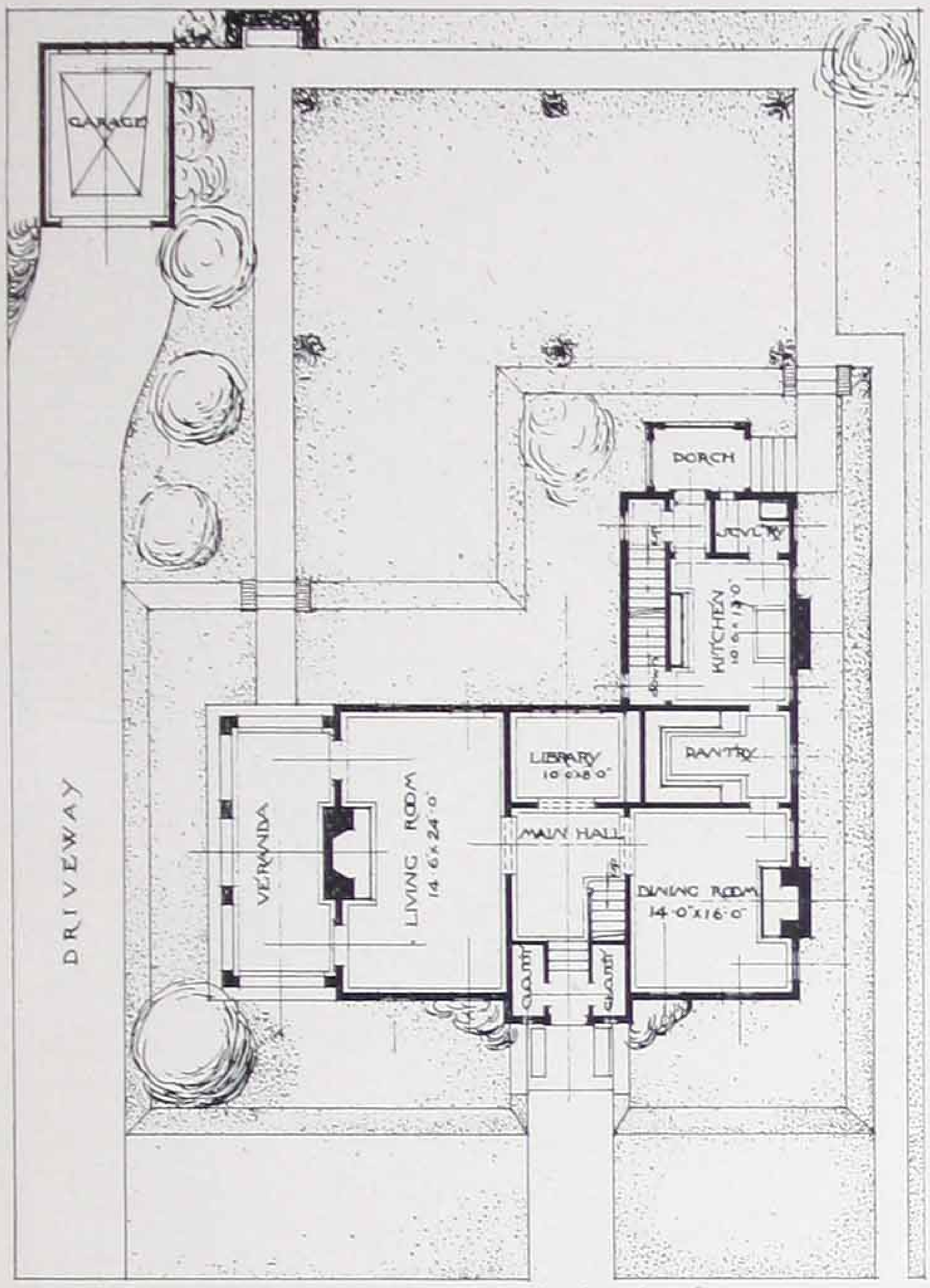
ELEVATION OF FRONT

DESIGN FOR A $4000 ºº STUCCO HOUSE

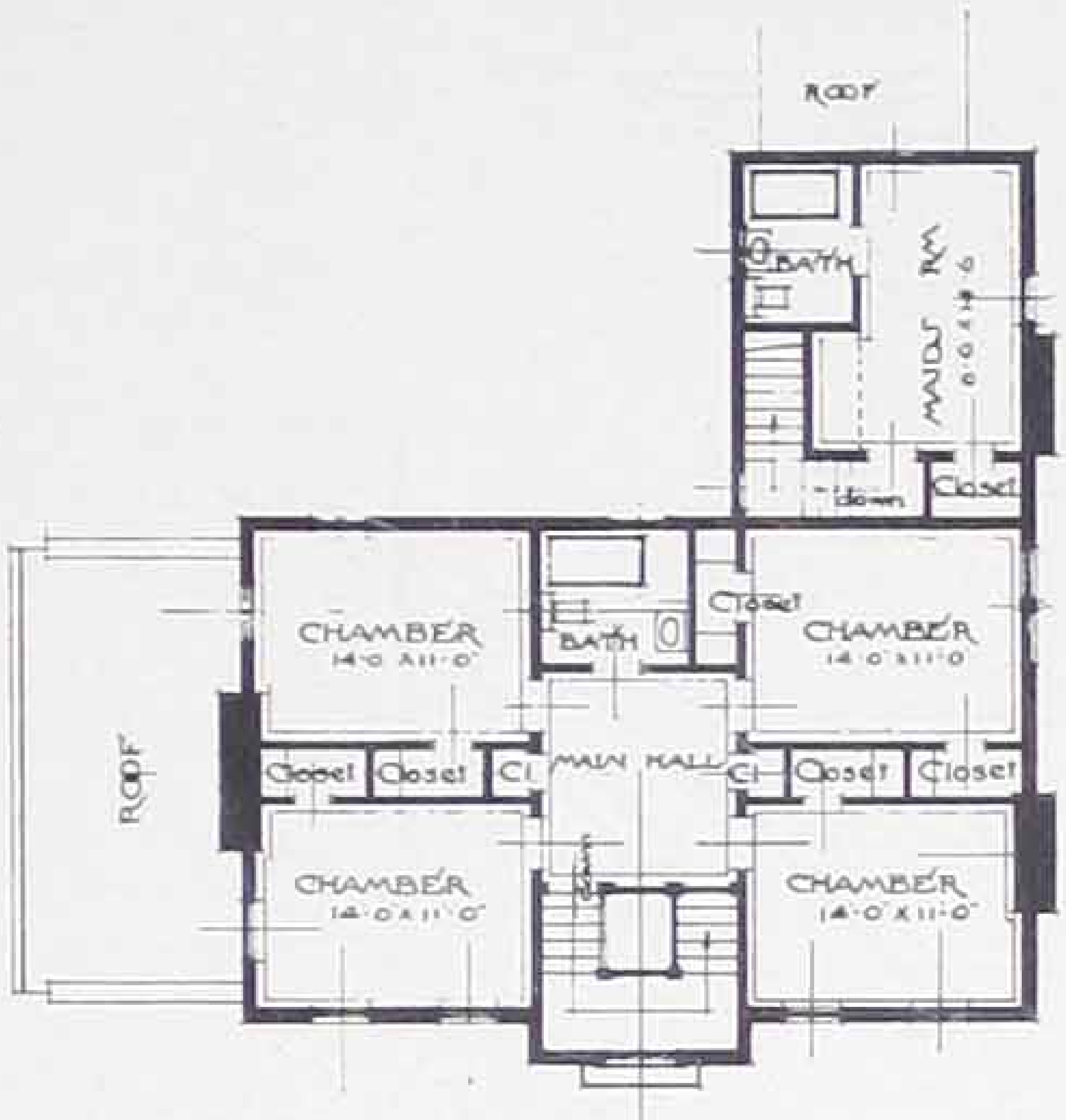
Henry C. Gabele, Architect.
The 1900 Euclid Building, Cleveland, O.



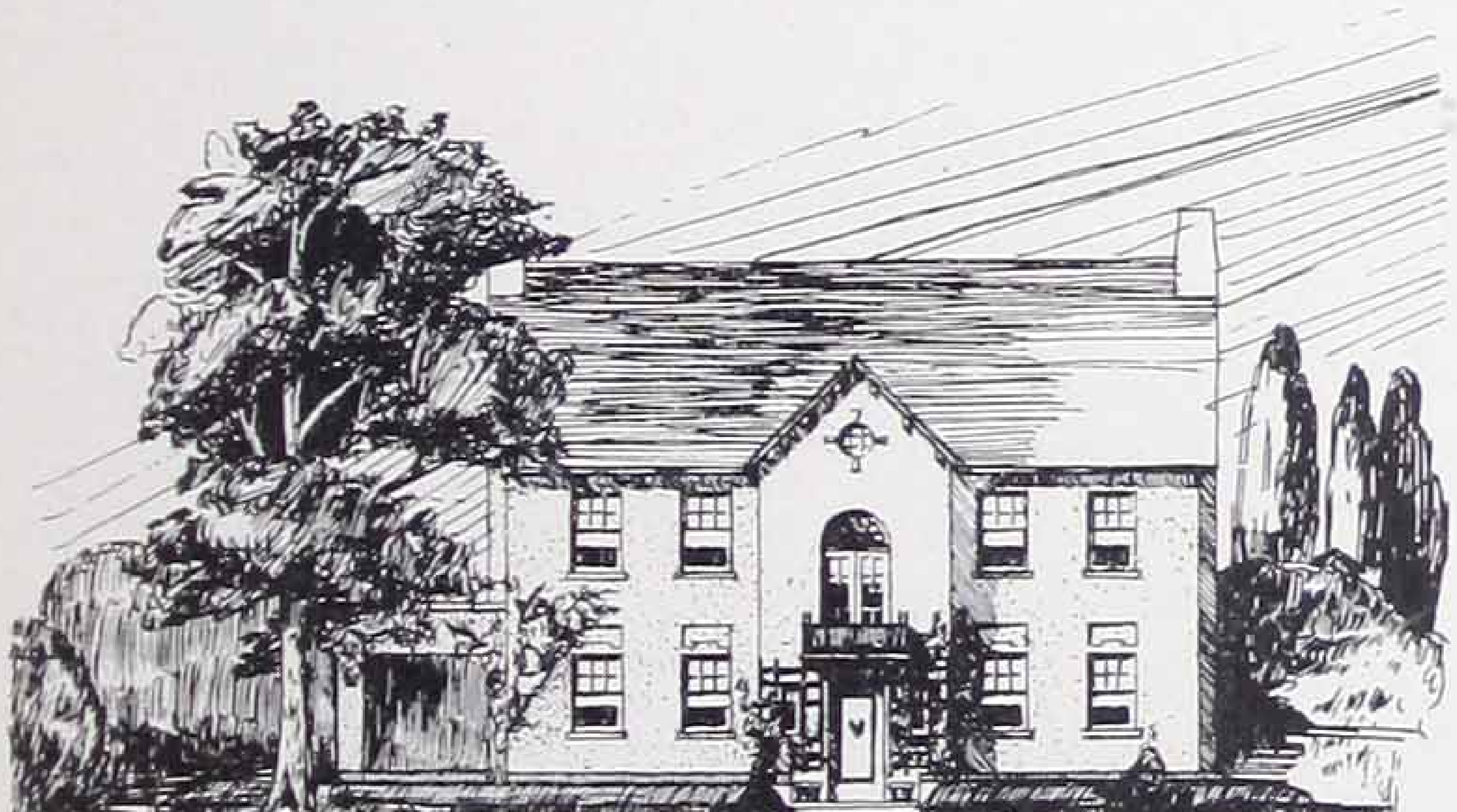
SECTION



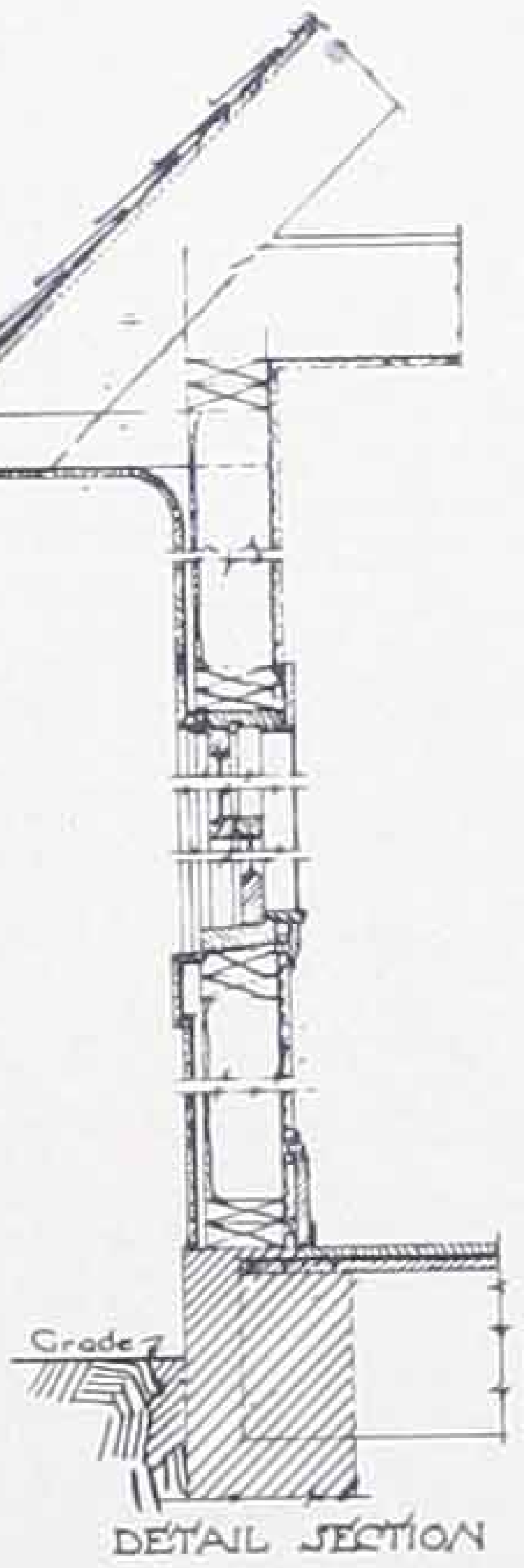
PLAN OF FIRST STORY



PLAN OF SECOND STORY



ELEVATION OF FRONT

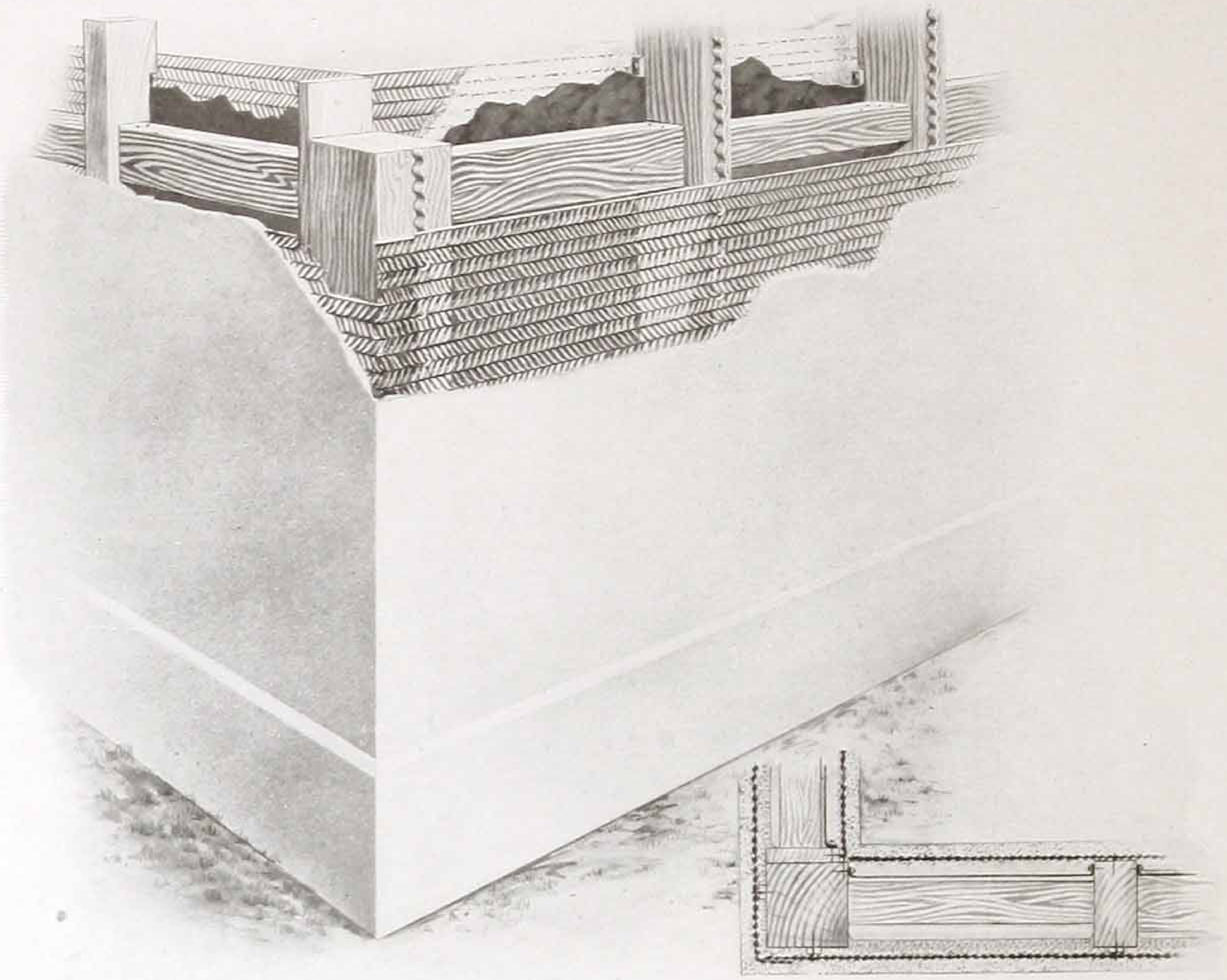


DETAIL SECTION

DESIGN FOR A $7000.00 STUCCO HOUSE

Henry C Gabele · Architect
Nº 408 - 1900 Euclid Bldg. Cleveland, O.

How The Stucco House is Built



When the frame of the structure is completed, the studding being adequately braced by horizontal bridging between each pair of studs, on the outside of each stud are nailed ⅜″ iron rods or ¾″ "crimped" furring running vertically. Over these furring strips the Herringbone Lath is fastened by means of staples. The strips mentioned serve to keep the lath from resting directly against the studding and provide space between lath and stud to permit the plaster to clinch firmly and completely envelop the lath. This is necessary to insure against corrosion. As an additional precaution some architects specify galvanized Herringbone or Herringbone Ingot Iron Lath. The peculiar and exclusive construction of Herringbone, however, insures that the plaster applied to the front will curl through the mesh and around the stands, completely enclosing and protecting them.

The first coat of cement plaster is applied outside and forced well through the lath. This should be well scratched to receive the second coat. When this has set for a day a coat of the same mixture is applied to the inside of the lath, thus thoroughly embedding the steel and making a solid wall adequately and permanently reinforced. Building paper is then fastened between the studding to act as insulation and divide the air space which will be left between the inner and outer wall.

The second outside coat of cement plaster is then applied and the third, a finish coat, added. This last coat may be treated in a variety of ways depending on the finish desired. It may be trowelled smooth with a metal trowel—stippled by lightly patting with a brush after trowelling,—sand floated with a wood float and the addition of a little sand to roughen the surface—sand sprayed by means of a whisk broom dipped into a creamy mix of equal parts sand and cement and sprayed forcibly against surface to be finished—splatter dash or rough cast by throwing forcibly against a smooth finish a mix of one part cement and two parts sand—pebble dash by throwing clean wet pebbles against the smooth surface before it has set—exposed aggregates by scrubbing the finished surface with a solution (1 to 4) of hydrochloric acid, thus exposing such coarse particles of sand, marble dust, granite dust or whatever special material may be used in the last mix for this purpose. Any of these finishes may be colored by adding mineral colors with the last coat when it is being mixed.

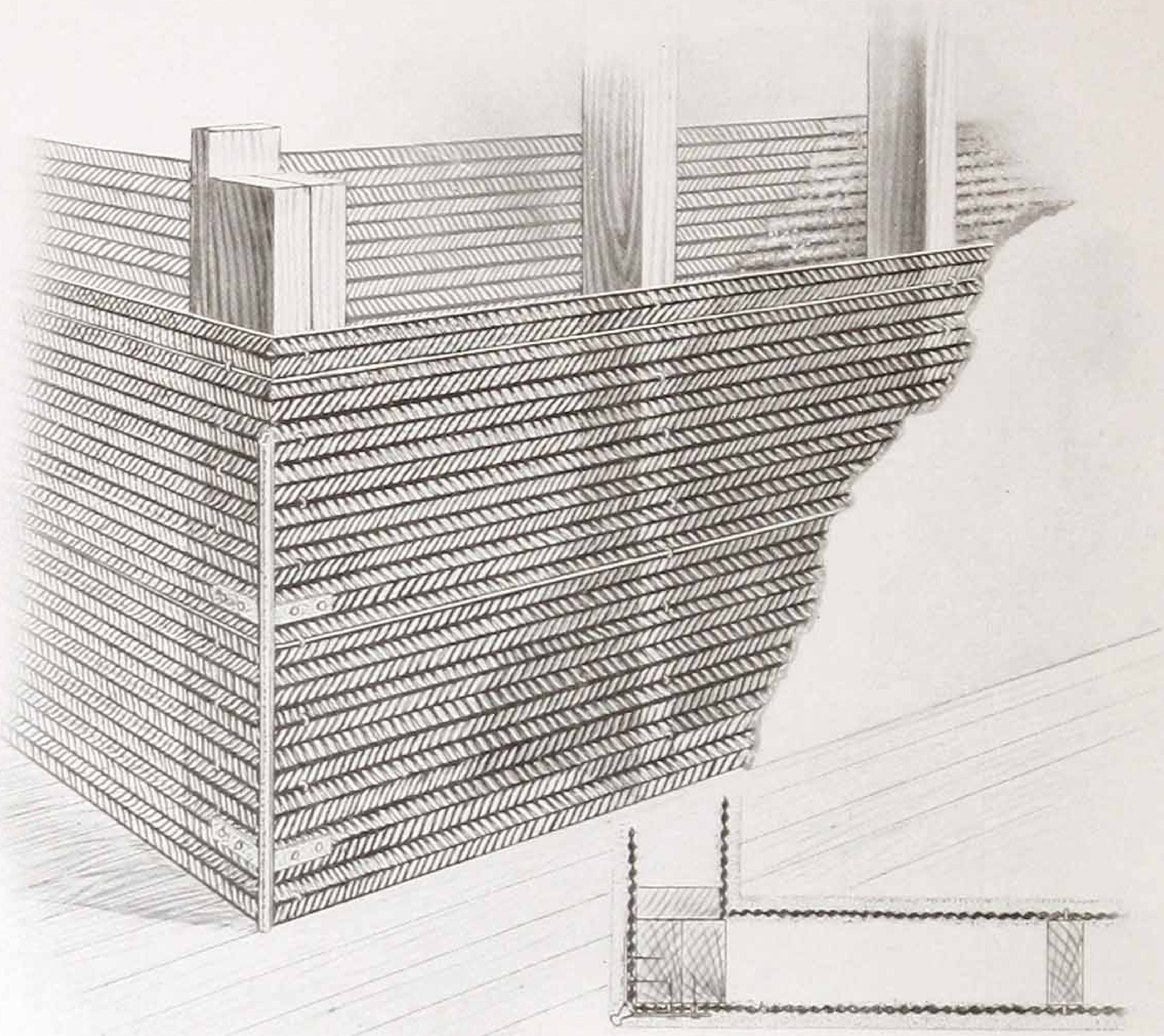
Proper attention to details is essential in this type of construction and to aid in securing the most satisfactory results we have compiled a complete detailed specification for stucco work which we will be glad to forward any owner, architect or contractor. This is very important and when you are ready to build should not be overlooked.

The Use of Herringbone Lath in Partitions and Ceilings

Because Herringbone Lath is the best reinforcement for cement siding, it should not be considered that this is its only use.

It is equally desirable for partitions and ceilings and possesses unsurpassed advantages for both. Until recent years fire-resisting construction has been confined largely to office buildings, industrial buildings and the like, but the necessity of fireproofing the home is becoming more widely recognized and of the various methods offered, none are as a whole as effective and so economical as metal lath and cement plaster. With the old type of construction, wood lath and plaster, every wall in the residence formed a natural flue *lined with wood*, every ceiling a furnace with inflammable top and bottom.

With Herringbone Lath and plaster these walls are transformed into impenetrable barriers against fire from within or without and the ceilings into effective protection from heat above



The Construction of a Herringbone Partition

or below. The Committee of the American Society of Civil Engineers, appointed to investigate the San Francisco fire, found and reported that metal lath and plaster were far superior to other types of fireproof construction.

Where a residence is of such a nature that steel studs may be used instead of wood, a partition of Herringbone Lath and plaster can be depended on to withstand successfully the heat which the burning of the contents of any of its rooms might generate. Even where wood studs must be used the fact that the Herringbone Lath will not burn, and the further fact that it will hold the plaster in place under the combined action of fire and water longer than any other type of construction, affords ample proof of its value as a fire protection. We have records of tests substantiating this which we will be glad to furnish on request.

In addition to the fireproof features of Herringbone partitions they have many other advantages.

They cannot be penetrated by rats or mice and will not hold moisture or harbor vermin.

They never show the lath stains or cracks so common with wood, and falling plaster from Herringbone partitions or ceilings is unknown.

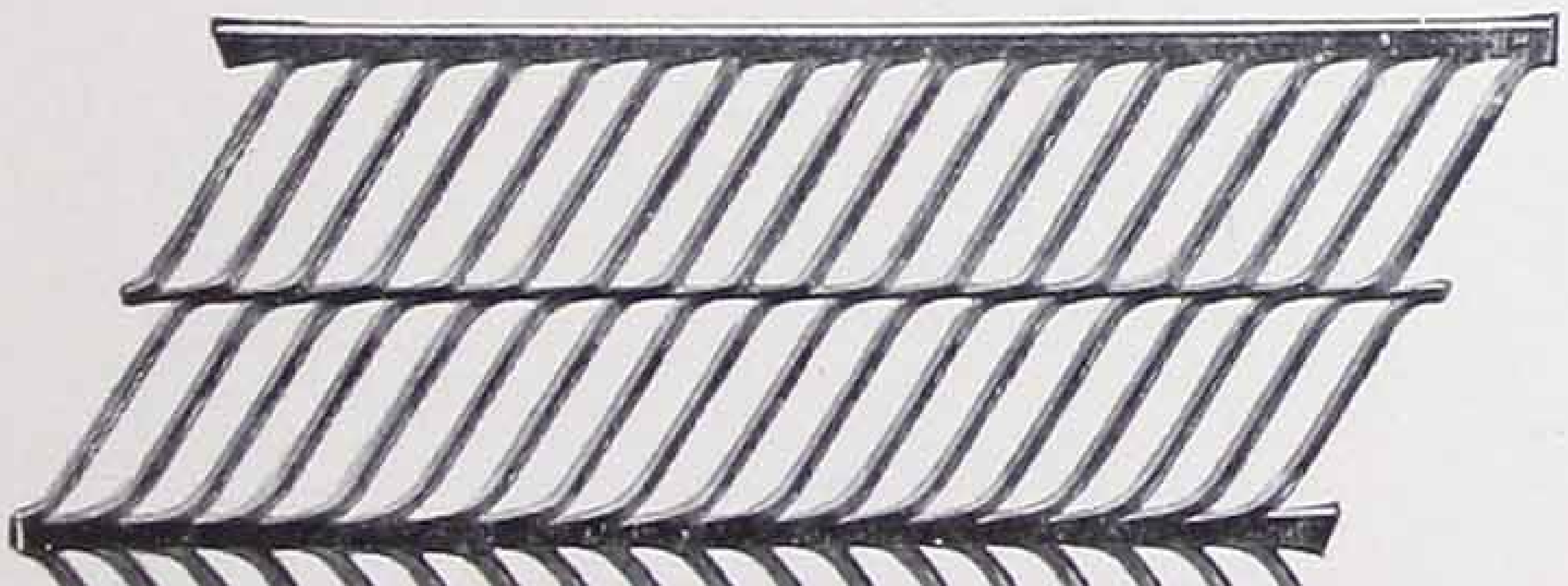
Herringbone, of all metal laths, is the only one where studding can be spaced 16 inches apart without trouble from sagging or buckling. This is because of the exclusive Herringbone rigidity.

The durability of Herringbone partitions is a by-word. The absolute grip which the mortar takes on this peculiar Herringbone construction will hold under shocks and strains that would entirely destroy other forms of construction. This has been demonstrated in earthquakes and tornadoes—in some cases where even the whole building has been destroyed the Herringbone partitions have been found unbroken.

Even where it is not used for fire protection Herringbone Lath is being specified for thousands of residences for the ceilings of kitchens, laundries and bathrooms. This is because the steam and moisture ever-present in these rooms soon causes wood lath to swell and break and the result is unsightly cracks and constant loose and falling plaster. The Herringbone grip caused by the plaster curling completely around each heavy rib and every cross strand, absolutely prevents this trouble. The lath cannot absorb moisture and even though the plaster does, it is held too firmly in place to permit its cracking or breaking loose.

The first cost of Herringbone is slightly more than other laths, but it is because Herringbone is the only metal lath not made to meet a price. It is a lath designed to meet every need for a strictly high grade metal lath—to give stronger and more nearly fireproof construction—to insure stability and to make for economy in the truest sense of the word—faultless and permanently faultless finished work.

About Herringbone Lath Itself



Style "BB"

Herringbone Lath is made in two styles, "A" and "BB," both being furnished in steel, plain, painted and galvanized or made from American Ingot Iron.

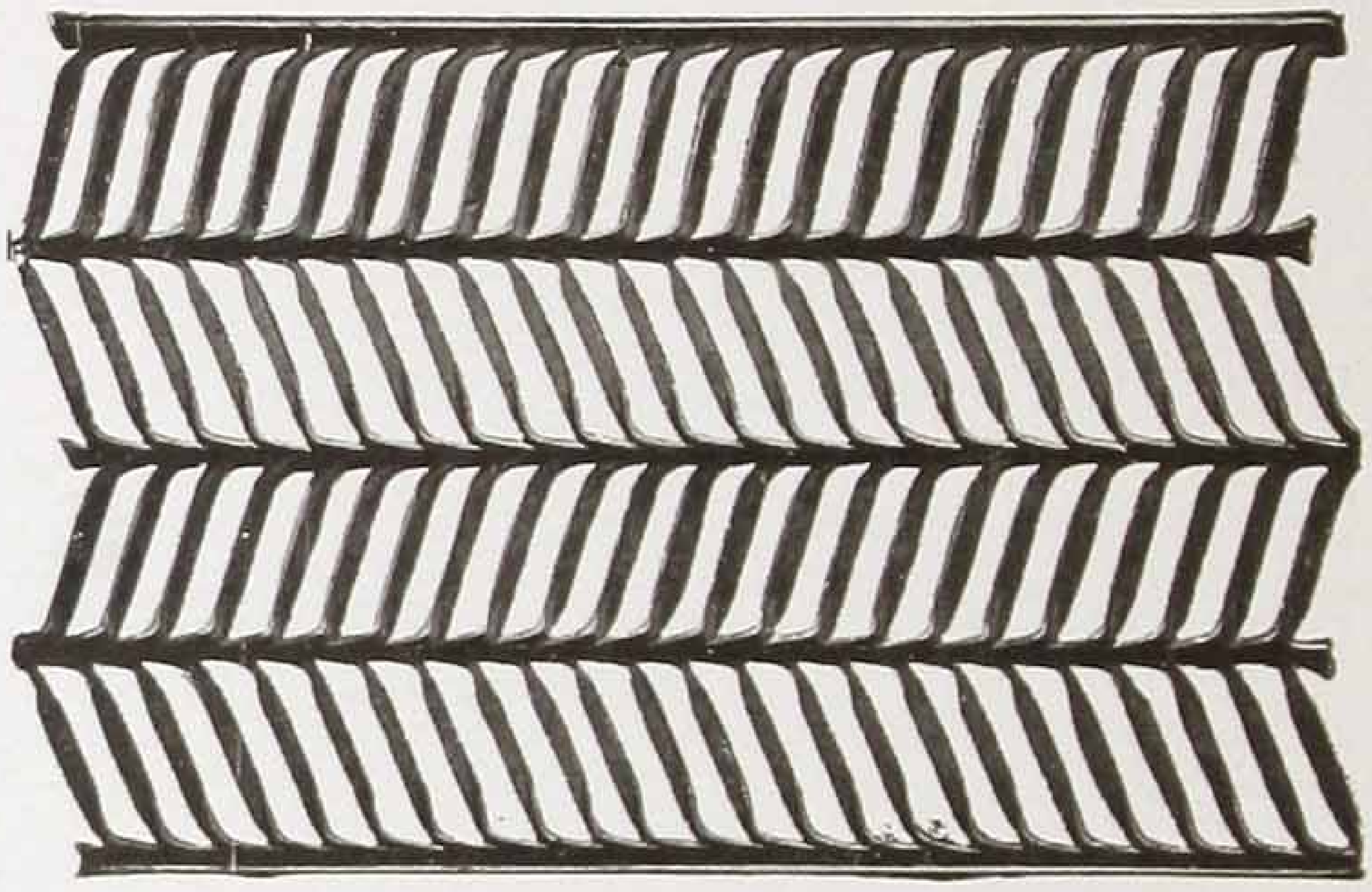
Style "BB" is the type recognized as standard for cement siding work and partitions, but it is successfully used for all classes of work. It is furnished as follows:

Size of Sheets 20¼″ x 96″—1½ square yards
Size of Mesh $\frac{7}{32}$″ x 1⅛″
Packed 15 sheets (22½ square yards) to the bundle.

Weights per Square Yard.

	Plain or Painted	Galvanized
27 Gauge	2¼ lbs.	3 lbs.
26 Gauge	2½ lbs.	Not made.
24 Gauge	3⅜ lbs.	4 lbs.

Style "A" is recommended for the very highest grade of work of all kinds. It is particularly designed for ceiling work and its broad strands and small mesh which prevent the dropping of wet plaster, and also make an extra strong support for the plaster load, make it ideal for this purpose. This lath weighs more gauge for gauge than any other expanded metal lath made and is consequently the stiffest and strongest lath made. It costs somewhat more than the "BB" type and where this is not objectionable it will be found the most desirable of all laths for cement siding.


Style "A"

It is furnished as follows:

Size of Sheets 13½″ x 96″—1 square yard
Size of Mesh $\frac{3}{16}$″ x 1″

Weight per Square Yard.

	Plain or Painted	Galvanized
28 Gauge	3 lbs.	3.6 lbs.

Herringbone Ingot Lath is made in the same styles and sizes as the steel lath, except that in the style "A" it is only made in 27 gauge, weighing 3 1-3 lbs. per square yard. To insure identification and prevent substitution, all Herringbone Ingot Iron Lath is painted a distinctive color and every bundle is sealed with a special tag and patent seal which cannot be removed without breaking.

The General Fireproofing Company

Youngstown, Ohio

Chicago—323-331 Madison St. **Atlanta—Third National Bank Bldg.**
Export Office—396 Broadway, New York City

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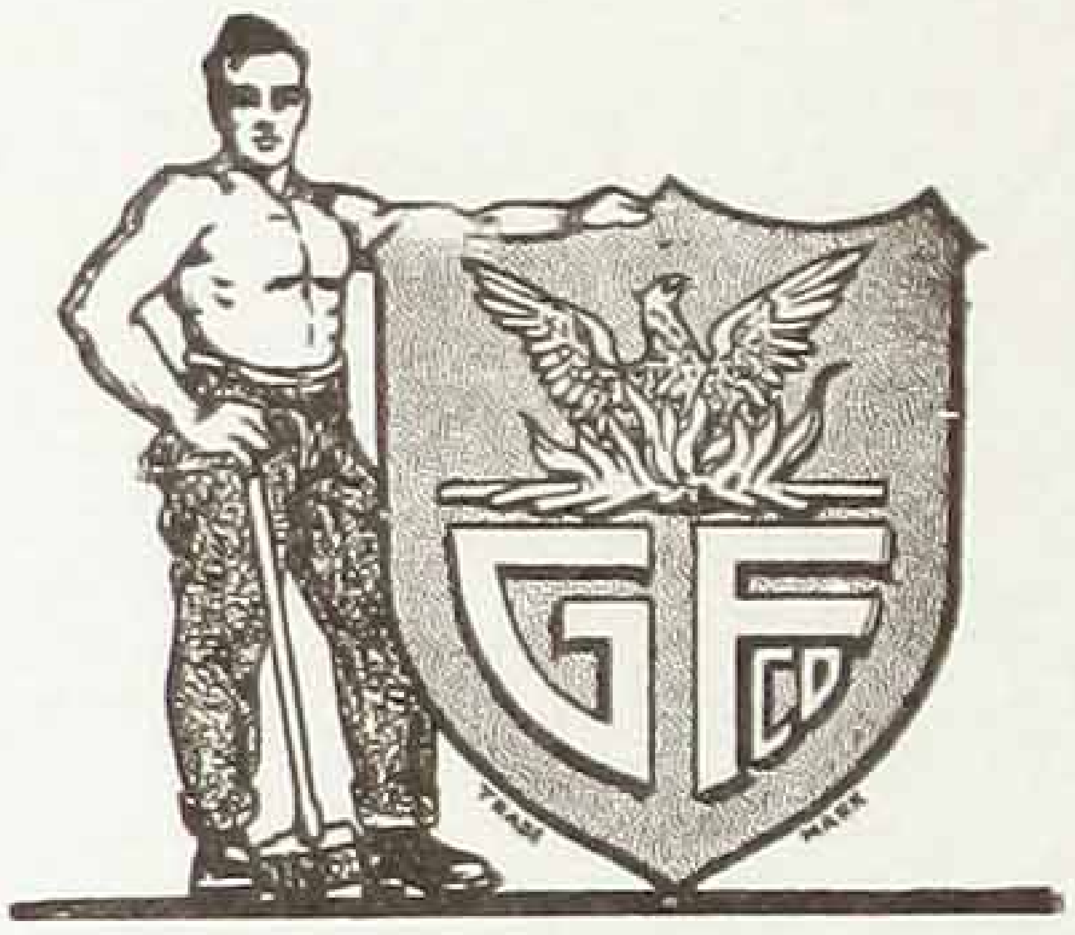

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